

2010 Sixth International Conference on Natural Computation

(ICNC 2010)

**Yantai, China
10-12 August**

**Volume 1
Pages 1-544**



**IEEE Catalog Number: CFP10CNC-PRT
ISBN: 978-1-4244-5958-2**

2010 Sixth International Conference on Natural Computation

ICNC 2010 Table of Contents Volume - 1

Preface.....	xiii
Organizing Committee.....	xiv
Program Committee	xv
Reviewers.....	xviii

Neural Network Theory and Algorithms **Multilayer Perceptron Neural Networks(I)**

A Batch Version of the SOM for Symbolic Data.....	1
<i>De-Hua Chen, Wen-Liang Hung, and Miin-Shen Yang</i>	
A Clustering Based Adaptive DAG for Multiclass Support Vector Machine.....	6
<i>Shaomin Mu and Chuanhuan Yin</i>	
A discrete differential evolution algorithm for lot-streaming flow shop scheduling problems.....	10
<i>Hong-yan Sang</i>	
A gene expression programming algorithm for multiobjective site-search problem.....	14
<i>Mengwei Liu, Xia Li, Tao Liu, Dan Li, and Zheng Lin</i>	
A Priority Rule-Based Scheduling Algorithm for Complex Manufacturing System.....	19
<i>Wenmin Miao, Zhongjun Li, and Shukai Yuan</i>	
A method of automatically estimating the regularization parameter for non-negative matrix factorization....	22
<i>Dalong Cheng, Zhenwei Shi, Xueyan Tan, Zhanxing Zhu, and Zhiguo Jiang</i>	
A New Fuzzy-Smith Control Algorithm Used in Oilfield Produced Water Treatment Control System.....	27
<i>Yurong Mao and Wenbao Hu</i>	
Alternative Combination of Improved Particle Swarm and Back Propagation Neural Network.....	32
<i>Jiangbin Wu, Ji Chen, and Lin Gu</i>	
A Novel Neural Network Ensemble Model Based on Sample Reconstruction and Projection Pursuit for Rainfall Forecasting.....	36
<i>Fangqiong Luo, Chunmei Wu, and Jiansheng Wu</i>	

A Novel Redundant Attribute Reduction Method.....	40
<i>Xu E,Liangsha Shao,Wenge Ma,Hao Wu,and Tao Qu</i>	
A PH complex control system built-in correction factor.....	45
<i>Baoxiang He and Guirong Lu</i>	
A PID Controller based on CMAC and Kalmen Filter.....	49
<i>Honglei Wei and Changyou Guo</i>	
A Speech Recognition System Based On Multiple Neural Networks.....	52
<i>Bo Lu,Jing-jing Wu,Yu Wang, and Jin-ping Li</i>	
A System of Position Control for Cylinder Based on Fuzzy Control.....	56
<i>Jianjun Tian</i>	
A Two-Dimensional Partial Least Squares with Application to Biological Image Recognition.....	61
<i>Shudong Hou,Quansen Sun, and Deshen Xia</i>	
ABS System Design Based On Improved Fuzzy PID Control.....	66
<i>Bo Lu,Yu Wang,Jing-jing Wu, and Jin-ping Li</i>	
Adaptive Learning Routing Algorithm of WSNs Based Autonomous Decentralized System approach.....	70
<i>Zhong Sheng, and Zhang Baihai</i>	
Adaptive tracking control with uncertainties for robots.....	74
<i>Chen Lanping , Ma Zhenghua,and Duan Suolin</i>	
An algorithm for Model Reduction of Large-scale Systems via Equality Constrained Least Squares.....	79
<i>Yue An and Chuanqing Gu</i>	
An Automatic Method for Identifying Different Variety of Rice Seeds Using Machine Vision Technology.....	84
<i>Ai-Guo OuYang,Rong-jie Gao,Yan-de Liu,Xu-dong Sun, Yuan-yuan Pan,and Xiao-ling Dong</i>	
An Efficient Background Prediction Algorithm for Infrared Dim Target Detection.....	89
<i>Zheng Chen, Zheng Hong, Sui Qiangqiang, and Li Xiangzhen</i>	
An Immune Genetic Algorithm Based Approach for Distribution System Reconfiguration.....	92
<i>AN Wen-dou,ZHOU Quan, ZHANG Xin, QIN Yuzhong ,and CHEN Weigen</i>	
An Implementation Method for Workflow Process Documents Conversion Rules Based on Meta-model....	96
<i>Yuqing Lan and Wenbin Zhou</i>	
An Improved 3D Object Feature Points Correspondence Algorithm.....	101
<i>Haiyan Zhang, Jianxin Wang,and Wei Meng</i>	
An improved ACO metaheuristic for solving the MCP.....	106
<i>Shijun Ren and Yadong Wang</i>	
An Improved Algorithm for Vertex Sequence of Shortest Path.....	112
<i>Fu Bai-wen</i>	
An Improved Decision Tree Algorithm and Its Application in Maize Seed Breeding.....	117
<i>Ji Dan,Qiu Jianlin,Chen Jianping,Chen Li, and He Peng</i>	
An Improved Genetic Optimization Method for Neural Network.....	122
<i>Huafen Yang,Jin Shang ,You Yang, and Dechun Dong</i>	

An Improved Training Algorithm of T-S Model HNFNN Based on Ridge Regression Function.....	126
<i>Xianchuan Yu,Sha Dai, and Dan Hu</i>	
An Incremental Update Strategy in Deep Web.....	131
<i>Hui Li,Mei Guo,Liang Cai, and Yanwu Yang</i>	
An Iris Segmentation Method Based on Difference Operator of Radial Directions	135
<i>Wang Xin-cun and Xiao xue-mei</i>	
Analysis of Factors Effecting the Accuracy in Determining Particle Size Distribution from Spectral Extinction Measurements.....	139
<i>Hong TANG and Sheng-hu XUE</i>	
Application and Research of Fuzzy Neural Network Evaluation System in the Comprehensive Treatment of Lake Wuliangsuhai.....	143
<i>Libin Wu, Shiyong SHANG and Yong ZHANG</i>	
Application of Artificial Neural Networks in the Diagnosis of Lung Cancer by Computed Tomography.....	147
<i>Yongjun Wu ,Na Wang,Hongsheng ZHANG,Lijuan Qin,Zhen YAN,and Yiming WU</i>	
Application of fractal interpolation in the law of mining subsidence.....	154
<i>Hongquan Sun</i>	
Application of fuzzy excessive criterion model to determine the source of inrush water in Xieqiao mine.....	159
<i>Jiazhong Qian,Chunlei Zhang,Liangcheng Fang,Zhiqiang Gao, and Lulu Wang</i>	
Application of Neural Network Technique for Logging Fluid Identification in Low Resistance Reservoir.....	163
<i>Li Ming and Jinliang Zhang</i>	
Application of the Rough Set Theory and BP Neural Network Model in Disease Diagnosis.....	167
<i>Xingyong Zhang,Guang Yang,Xia Bo,Xiaohong Wnag,and Baohua Zhang</i>	
Application of Wavelet Neural Networks for Trip Chaining Recognition.....	172
<i>Dan Zhao and Chunfu Shao</i>	
Application Research of Fuzzy Optimization Based on Genetic Algorithm.....	176
<i>Panxiang Yue</i>	
Application Research of Three Layer BP Network on Performance Evaluation of wet cooling tower under cross-wind conditions.....	181
<i>Ming Gao,Fengzhong Sun,Tingting Gong and Ni-ni Wang</i>	
Application Study on BP Network in Identifying Reliability Life Distribution Types.....	185
<i>Junyuan Gu ,Tingxue Xu , and Haijian Chen</i>	
Approaches to realize temperature compensation of pressure sensor based on genetic wavelet neural network.....	189
<i>Hong Zhao and Yanhua Mi</i>	
BP artificial neural network based on improved methods of surface soil in Jilin City Environmental Quality Evaluation.....	195
<i>Cai Wentao,Wang Huiyan, and Bao Xinhua</i>	

Comprehensive Technical Condition Evaluation of Bridge Based on Grey Fuzzy Theory.....	200
<i>Juntao Kang and Baiben Chen</i>	
Consumer Credit Risk Evaluation by Logistic Regression with Self-Organizing Map.....	205
<i>He Ni</i>	
Convergence rate of quantum algorithm for multivariate approximation.....	210
<i>Jiangfan Long, Sheng Zhang, and Peixin Ye</i>	
Design and Implement of Neural Network Based Fractional order PI λ Controller.....	215
<i>GONG Ruikun , ZHANG Guangxiang , YANG Youliang , SUN Jie , TIAN Yansong, and CHEN Lei</i>	
Design of fuzzy control system for the waste rubber crusher based on feedforward & feedback control.....	220
<i>Chang-zhong Chen, Cheng-hua Fu, Bang-rong Wang, and Hao Wu</i>	
Design of Network Security System Base on Vaccination.....	224
<i>YaPing jiang and JunLin Chang</i>	
Development of the Long-term Forecast System Based on the Neural Network of the Potato Late Blight in Liangshan Prefecture.....	228
<i>Peng Guozhao and Luo Qing</i>	
Distributed Parameter Model and Cooperative Control of Manipulators Handling a Flexible Payload.....	233
<i>Zhiguo Tang and Yuanchun Li</i>	
DNA Information Mining Based on Hidden Markov Models.....	238
<i>Zeju luo and Lihong Song</i>	
Dynamic Item-Based recommendation Algorithm with Time Decay.....	242
<i>Chaolun Xia , Xiaohong Jiang, Sen Liu, Zhao Bao Luo, and Zhang Yu</i>	
Dynamic Trust Model Based on Contexts-Aware Computing.....	248
<i>Wen-Xing Sun , Feng-Ming Liu, and Xi-Yu liu</i>	
EEG Classification Based on Small-world Neural Network for Brain-Computer Interface.....	252
<i>Ting Li, Jun Hong, and Jinhua Zhang</i>	
Effect of Pre-processing on Performance of a Neural Networks with One-dimensional Sampling from X-ray Images of Chest.....	257
<i>Takahiro Sasaki, Kentaro Kinoshita, Satoru Kishida, Yoshiharu Hirata, and Seigo Yamada</i>	
electromagnetic imaging of the 2-D media based on particle swarm algorithm.....	262
<i>Hui Zhang, Xiao-di Zhang , Jun Ji, and Yong-jia Yao</i>	
Environmental Assessment of World Bank Projects in Yanhe Basin Based on Evidence Synthesis Trained by Particle Swarm Optimization Neural Network.....	266
<i>CHEN Li</i>	
Evolutionary Design of Digital Filter.....	269
<i>Pang ZHOU and Dongmei WEI</i>	
Exact and Approximate Interpolation for Neural Networks with Single Hidden Layer.....	273
<i>Feilong Cao , Yubo Yuan, and Chunmei Ding</i>	

Experimental Study of Magneto-Rheological Materials and its Damper Dynamic Characteristics.....	278
<i>Enli Chen, Chundi Si, and Jin Liu</i>	
Exponential Stability of Impulsive Cohen-Grossberg-type BAM Neural Networks with Delays and Diffusion Terms.....	282
<i>Li Wan and Qinghua Zhou</i>	
Fault diagnosis of rolling element bearings using an EMRAN RBF neural network-demonstrated using real experimental data.....	287
<i>Ihab Samy ,Ip-Shing Fan, and Suresh Perinpanayagam</i>	
Freeway Traffic Estimation in Beijing based on Particle Filter.....	292
<i>Shuyun REN,Jun BI,Y.F FUNG, and Xuran Jvan LI</i>	
Fuzzy Cerebellar Model Articulation Controller (FCMAC) for Vibration Control on Ocean Engineering Vehicles.....	297
<i>Shiming Wang and Aiping Wu</i>	
Fuzzy Neural Network Water-mixed Control System Based on hybrid algorithm.....	303
<i>Manjun Cai and Guokai Xiao</i>	
Fuzzy Statistical Description and Fuzzy Nonparametric Test for Investing Decision.....	308
<i>Wanbo Lu and Peng Jiao</i>	
General Theory Research on Phase-Encoded Morphological Correlation for Face Recognition.....	312
<i>Yu Yang, Min FuHong,and Ni XiaoWu</i>	
Global Dissipativity of Cohen-Grossberg Neural Networks With Mixed Delays.....	317
<i>Xuyang Lou, Qian Ye, and Baotong Cui</i>	
GM(1,2) Forecasting Method for Day-ahead Electricity Price Based on Moving Average and Particle Swarm Optimization.....	322
<i>Ruiqing Wang</i>	
Gradient-Based Immune Algorithm for Optimization of Dynamic Environments.....	327
<i>Shi Xuhua and Qian Feng</i>	
Heat value identification of coal in utility boilers with neural network.....	331
<i>Yi Zhang,Yongchen Song, and Zuowang Cao</i>	
IABA: An Improved PNN Alogrithm for Anomaly Detection in Network Security Management.....	335
<i>LIU Wu ,DUANHai-xin,REN Ping,and Wu Jian-ping</i>	
Image Segmentation based on Fuzzy Entropy and Bee Colony Algorithm.....	340
<i>Yonghao Xiao, Weiyu Yu, and Jing Tian</i>	
Incorporating Prior Knowledge in A Fuzzy Least Squares Support Vector Machines Model.....	344
<i>Liang Xu and XiaoBo Zhang</i>	
Investigation on Lateral acceleration Prediction of Tilting Passenger Car Based on Neural Networks.....	349
<i>Jimin Zhang,Baoan Zhang, and Zhiqiang Yang</i>	
Kohonen Self-Organizing Map for Multiple-Outlet Sluice Gates Control System.....	353
<i>Zhongzhi Li</i>	

Learning Algorithm for the State Feedback Artificial Neural Network.....	357
<i>Lixian Liu, Bingxin Han, Xiaobing Ren, and Zhanfeng Gao</i>	
Local flow regime identification for boiling two-phase flow by BP neural networks approach.....	362
<i>Yan Liu and Shao-feng Zhang</i>	
Logic Functions Minimization Algorithm Based on Recognition of Essential Prime Implicants.....	367
<i>Qiu Jianlin, Gu Xiang, Ji Dan, Li Fen, He Peng, and WANG Bo</i>	
Marginal Price Forecasting Based on KNN-IA Algorithm.....	372
<i>Fang Zhou, and Min Wu.</i>	
Material Level Detection and Optimum Control of BBD Coal Mill.....	377
<i>Yong Duan, Bao Xia Cui, Rui Li, Kai Chen, and Xingyu Qu</i>	
Measuring Method of the stability of Hopfield Neural Network with delay.....	381
<i>Xiaolin Liu</i>	
Medium optimization of antifungal metabolites produced by Bacillus globisporus A95 using response surface methodology.....	384
<i>Ning-Ning Cao, Xun-Li Liu, Nan Zhang, Qi-Sheng Zhou, Sha-Sha Zhang, and Hui Guo</i>	
Method of Analog Circuits Fusion Diagnosis based on BP Network and DS Theory.....	389
<i>LIN Zhigui, FENG Zhihong, XIAO Zhitao, and ZHONG Qingqing,</i>	
Mobile Welding Robot System Based on Rotating Arc Sensor Applied for Large Fillet Welding Seam Tracking.....	394
<i>Zhi-wei Mao, Ji-luan Pan, and Hua Zhang</i>	
Multi-link Traffic Flow Forecasting Using Neural Networks.....	398
<i>Ya Gao and Shiliang Sun</i>	
Nature-Inspired Computation Based on Orthogonal Intelligence Optimization.....	402
<i>Yongxian Li and Jiazhong Li</i>	
Neoteny Learning Rule of ART2 Network and Its Function.....	407
<i>Zhong Chen and Mei Wang, and Li He</i>	
Neural Network Algorithm for Solving Triple Integral.....	412
<i>Jingli Yang and Tingsong Du</i>	
Neural Network Modeling of Polar Fleece Fabric Appearance Evaluation.....	417
<i>Binjie Xin, Jinlian Hu, Xiaoxia Liu, and Lantian Lin</i>	
New condition for Improved robust reliable controller design for Neutral system with time delay.....	422
<i>Chunmei Wang, Xueli Wu, and Yang li</i>	
New conditions for synchronization of a Class of Chaotic Neural Networks.....	426.
<i>Ran Zhen, Xueli Wu, and Zhan Zhang</i>	
New results concerning exponential stability of delayed neural networks with impulses.....	431
<i>Chuanzhi Bai</i>	
Newton0s Method for Loo Support Vector Machine.....	436
<i>Ruopeng Wang, Hongmin Xu, and Hong shi</i>	

Nonlinear System Identification and Control with Delayed Cellular Neural Network.....	441
<i>Yanling Gao, Deying Zhang, and Shuli Chen</i>	
Novel Terrain Integrated Navigation System using Neural Network aided Kalman Filter.....	445
<i>Peijuan Li, Xiaofei Zhang, and Xiaosu Xu</i>	
On Critical path contained fuzzy network activity.....	449
<i>Yan xizu and Song zhongmin</i>	
On security of image encryption scheme with compound chaotic sequence cipher shifting dynamically.....	453
<i>Bo Li</i>	
On the Levenberg-Marquardt Training Method for Feed-Forward Neural Networks.....	456
<i>HongWei Liu</i>	
On-line NIR predicting soluble solids content of intact pears combination with wavelet transform and support vector regression.....	461
<i>Yan-de LIU, Yuan-yuan PAN, Rong-jie GAO, Xu-dong SUN, Ai-guo OUYANG, and Xiao-ling DONG</i>	
Optimization for giant magnetostrictive smart component based on multi-objective genetic algorithm.....	466
<i>Xiao-Mei Sui, Zhang-Rong Zhao, Xu-Ming Wang, and Xia-Jun Meng</i>	
Parallel Metaheuristic Algorithm for Exam Timetabling.....	471
<i>Nashat Mansour and Ghia SleimanHaidar</i>	
Phase Synchronization Analysis of Multi-channel Local Field Potentials Based on High-resolution Wavelet Transform.....	476
<i>Xiaoman Hu, Xinyu Xu, and Xin Tian</i>	
Positions research of agriculture vehicle navigation system based on Radial Basis Function neural network and particle swarm optimization.....	480
<i>Ying Ji, Man Zhang, Gang Liu, and Zhaoxiang Liu</i>	
Power System Transient Stability Assessment Based on Geometric features of Disturbed Trajectory and DTW.....	485
<i>Yinghui Kong and Shuqiong Liu</i>	
PP-PCA Eigenvalues Analysis of Cerebral Cortex Local Field Potentials.....	490
<i>Shuangyan Li, Xinyu Xu, and Xin Tian</i>	
Pre-Alarm System of Coal Mine Based on ICA and Kalman Filter.....	495
<i>Jipeng Lin</i>	
Predicting Protein Structural Class with Ensemble of Flexible Neural Tree.....	498
<i>Nana Cai and Yuehui Chen</i>	
Prediction of Aerobics Achievement Basing on Neural Network.....	503
<i>Bai kai-xiang, Gaoming, Yinhang, Chengyin, and Wangni</i>	
Preliminary exploration of research method for studying the influence of acupuncture manipulations on electrical signals of spinal dorsal root nerve in rats.....	509
<i>Zebao Zheng, Yangyang Liu, Yi Guo, Yongming Guo, Chao Wang, Jiang Wang, and Chunxiao Han</i>	

Protein Remote Homology Detection.....	514
<i>Ying Li, Guan Yujing, Zhang Huaiguo, and Y.C. Liang</i>	
RBF Model of Microwave Filter Using PDGS with Defected Rectangles.....	519
<i>JIN Taobin, JIN Jie, YAO Ruipu, LI Kejia, and ZHANG Yizhen</i>	
Research and Implementation of Vehicle Navigation System Based on Multi-Source Data.....	523
<i>Zheng-Wu Yuan, Guan-Yu Zhu, Jiang-Fan Feng, and Lin-Li</i>	
Research of Classification Intersection Hierarchical Granularity Algorithm Based on Concept Lattice.....	528
<i>Baoxiang Liu and Li Feng</i>	
Research on BP Network for Predicting the Evolution of Shoal in River.....	531
<i>Zhijun Hu</i>	
Research on event-driven wireless sensor network multi-path routing protocol.....	534
<i>Jiayu Wu, Youbin Hu, and Xiaowei Wang</i>	
Research on fire detection in coal mine based on fuzzy neural network.....	539
<i>Wang Yuanbin and Ma Xianmin</i>	
Research on Fuzzy Comprehensive Assessment for Fire Safety of Regional Buildings.....	542
<i>Yi, Sali</i>	

Author Index

2010 Sixth International Conference on Natural Computation

(ICNC 2010)

**Yantai, China
10-12 August**

**Volume 2
Pages 545-1092**



**IEEE Catalog Number: CFP10CNC-PRT
ISBN: 978-1-4244-5958-2**

2010 Sixth International Conference on Natural Computation

ICNC 2010 Table of Contents Volume - 2

Preface	xiii
Organizing Committee	xiv
Program Committee	xv
Reviewers	xviii

Multilayer Perception Neural Networks (II)

Research on Insect Identification Based on Pattern Recognition Technology.....	545
<i>Huiyong Yang, Wei Liu, Kun Xing, Jian Qiao, Xin Wang, Lingwang Gao, and Zuorui shen</i>	
Research on Missile Storage Reliability Forecasting Based on Neural Network.....	549
<i>Chen Haijian, Li Bo, and Gu Junyuan</i>	
Research on Partners Selection of Collaborative Design Based on Ant and Genetic Algorithm.....	554
<i>Youyuan Wang and Weiping Xu</i>	
Research on Personalized Recommendation System Dynamic Case Generation.....	558
<i>Jieli Sun, Zhiqing Zhu, and Ying Wang</i>	
Researching on Forecasting the Freight Traffic Volume of Pork New Container Logistics Park.....	562
<i>Shouwen Ji, Zhaosheng Li, Gang LIU, and Yang LIU</i>	
SCM Semantic Monitoring Platform Based on Wireless Sensor Network and RFID under P2P Environment.....	567
<i>Shengxian Xie, Baoxian Jia, Junqing Li, and Jianliang Xu</i>	
Shadow Detecting using PSO and Kolmogorov Test.....	572
<i>Xing Chao, LiYanjun, and Zhang Ke</i>	
Simulation Research of Muzzle Disturbance Based on Artificial Neural Network.....	577
<i>Kaibo Cui, Qinzhu Xu, Junqi Qin, Changzhi Jia, and Shisong Wang</i>	
Simulation study of time lag in desynchronization of Nerve Network.....	582
<i>Yan-long Li and Li-hua Wang</i>	
Single Image Super Resolution for License plate.....	586
<i>Yanbing Xue, Wenhui Deng, Dongsheng Zhou, and Hua Zhang</i>	

SMT Product character Recognition Based on BP Neural Network.....	589
<i>Huihuang. Zhao,Dejian. Zhou, and Zhaohua . Wu</i>	
Soil Water Retention Curve Analysis Using Radial Basis Function Network.....	594
<i>Jin Gao and Yanfeng Liu</i>	
Solving the Shortest Path Routing Problems by Integrating a Fast Searching Strategy into a Hysteretic Neural Network with Transient Chaos.....	598
<i>Xiuhong Wang and Qingli Qiao</i>	
Some Quantum Search Algorithms for Arbitrary Initial Amplitude Distribution.....	603
<i>Hiromi Miyajima,Noritaka, Shigei, and Keisuke Arima</i>	
Spatial Distribution textural analysis of Geochemical Pattern in Gaosong orefield with multifractal theory.....	609
<i>Jiangnan Zhao,Shouyu Chen,and Yu Sui</i>	
Speech Emotion Recognition Based on Data Mining Technology.....	615
<i>Ying SHI and Weihua SONG</i>	
Stocks Market Modeling and Forecasting Based on HGA and Wavelet Neural Networks.....	620
<i>Hui-ren Zhou and Ying-hui Wei</i>	
Studies on Typhoon-Wave Prediction by Artificial Neural Networks at Longdong, Taiwan.....	626
<i>Chih-Chuh Yang and Ching-Her Hwang</i>	
Study of feature extraction based visual invariance and species identification of weed seeds.....	631
<i>Wencang Zhao and Junxin Wang</i>	
Study on GM (1, N) self-memory and neural network combined model for evaporation forecasting.....	636
<i>Haini Duan, Bing Shen, Shuhong Mo, and Haijun Han</i>	
Study on Modified PSO Algorithm.....	640
<i>Dongyun Wang and Fulin Fan</i>	
Study On Simulation Of Exotic Plant Invasion Based On a CA Model.....	646
<i>Jinxing Zhou,Jingming Zheng, Qing Zhang, Ming Cui,and Xiaoming Li</i>	
Study on the Application of the Hierarchical Fuzzy Neural Network in the Fault Diagnosis of the Asynchronous Motor.....	651
<i>Yun Zhang,Nan Xu, and Quanxi Ji</i>	
Study on The Current Velocity Prediction By Artificial Neural Network at The Entrance of Hualien Port of Taiwan.....	655
<i>Chih-Tsung Hsiao and Ching-Her Hwang</i>	
Study to Eliminating Noisy Information in Web Pages based on Data Mining	660
<i>Guohua Hu and Qingshan Zhao</i>	
Sufficiency for vector variational control problems under generalized KT-invexity.....	664
<i>Jun Jiang and Shuli Xu</i>	
Superplasticity Prediction and Application of Albronze Based on Artificial Neural Network.....	668
<i>GUO Junqing, CHEN Fuxiao, YANG Yongshun, and Li Hejun</i>	
Support Vector Machine with Chaotic Genetic Algorithms for Annual Runoff Forecasting.....	671
<i>Wenchuan Wang, Dongmei Xu, and Lin Qiu</i>	
Target Recognition for Marine Search and Rescue Radar.....	676
<i>Ying Shijun, Chen Jinbiao, and Shi Chaojian</i>	

The Amount Prediction of Gas Emitted Via Wavelet Neural Network with Improving Training Algorithm.....	680
<i>Pengqian Xue, Xiaoyu Zhang, and Yumin Pan</i>	
The Applience of Neural Net on the Nonlinear Bayesian Dynamic Models.....	684
<i>Pingyong Bian and Jinjing Li</i>	
The Component core and value for games with coalition structure.....	687
<i>Shujin Li and Xiaoning Li</i>	
The Establishment And Evaluation Of Index System Of Textile Enterprise's Independent Innovation Ability.....	692
<i>Cao Yake, Liu huiwen , and Yangyu</i>	
The Fractal Images Evaluation Model Based on Artificial Neural Network.....	696
<i>Ling Feng and Jing Liu</i>	
The implementation of wavelet transform based on log-domain circuits.....	701
<i>Qingxiu Huang and Chao Yang</i>	
The measurement of Planing Surface Roughness by Neural Networks Based on Image.....	705
<i>Xiang-wei Chen, Zhao-hui Liu, and Zhi-kui Zhang</i>	
The Model and Method of Trustworthiness Level Evaluation for Software Product.....	709
<i>Liang Chen, Ping Cheng, and Wei Liu</i>	
The Oil Transmission Station Operational Guidance Calculation Algorithm Based on Hopfield Neural Network.....	716
<i>Gao weixin, Tang Nan, Li Yaping, and Zhang Huade</i>	
<i>The Optimization Design of Truss Based on Ant Colony Optimal Algorithm.....</i>	<i>720</i>
<i>Xiaojia Chen, Shuguang Liu, and Shaohong He</i>	
The real diagnosis analysis of the correlation relations between USD index & gold price.....	724
<i>Dechun Huang and Shu Wang</i>	
The Research on Wavelet-based Coin-Tap Non-destructive Testing of Carbon Electrode.....	728
<i>Xiaolin Cao, Xiaobo Shen, Shuangwei Wang, and Zhigang Wei</i>	
Robust Control of Controller Depended on State Derivative for Fuzzy Time-Delay Systems.....	733
<i>Junzhi LUO, Chuanqing XU, and Guiling JU</i>	
Train Wheel Profile Segmentation With 2-D Minimum Cross Entropy Method Based On Particle Swarm Optimization.....	738
<i>Yong Zhao and Yong –Biao Hu</i>	
Urbanization Level Forecast Based on BP Neural Network.....	742
<i>, Mingqi Chang, and Junping Liu</i>	
Value-at-risk forecasting with combined neural network model	746
<i>Lu Huapu, Yu Xinxin, Zhu Jianan, Zhao Xiaoqiang, and Cheng Nan</i>	
Vehicles Detection in Traffic Flow.....	751
<i>Guoliang Mo and Sanyuan Zhang</i>	
Vibration fault diagnosis of hydro-turbine generating unit based on rough 1-v-1 multiclass support vector machine	755
<i>Xiaoyuan Zhang, jianzhong Zhou, Yaoyao He, Yuchun Wang, and Bo Liu</i>	
Wax Deposition Rate Model for Crude Oil Pipeline Based on Neural Network.....	760
<i>Yanyan Wei , Ming Wu, and Ling zhao</i>	

Neuro-Biological Systems

- Blind Testing Based on ICA for Quasi-Brain-Death EEG.....763
Wei Zhou, Qiwei Shi, Shilei Cui, Yinan Zhou, Jianting Cao, Yang Cao, Huili Zhu, and Rubin Wang
- Exponential stability for impulsive bidirectional associative memory neural Networks With Continuously Distributed Delays.....767
Junyan Xu

Cellular Neural Networks

- Chaotic Neural Network with Double Self-feedbacks and Its Application.....772
Ming Sun, Wei Cao, and Shumei Wang
- existence and global exponential stability of Periodic Solutions of Cellular Neural Networks with Time-Varying Delays and Impulses.....777
Chunxue WU and Bao SHI
- New Asymptotical Stability Conditions for Delayed Neural Networks Model with Distribution.....782
Haifei Liu, Chengyao Wu, Xindan Li, and Hongliang Zhu
- New condition for global asymptotically stability of cellular neural networks with time delay.....785
Guozhuang Liang, Xueli Wu, and Wenxia Du
- On Index Sum of Continuous Time Neural Network.....790
Tundong LIU and Xiao-song YANG
- Research on compensation for pressure sensor thermal zero drift based on back propagation neural network implemented by hardware circuits.....796
Ye LIU, Lu ZHANG, Shiyang SHAN, Peipei SUN, Xinwei YANG, Bin WANG, Dan SHI, Peizhi HUI, and Xiaojiao LIN
- Robust stability for stochastic interval Hopfield neural networks with time delays.....801
Jin-fang Han, Ji-qing Qiu, Hui-ran Jia, and Xiang-ting Meng
- Study of the Traffic Flow on the Various Sloping Way.....806
Wen Jian, Tian Huanhuan, and Xue Yu
- The Application of Hopfield Neural Network in Enhancing X Ray Image of Steel Pipe Welding.....810
Li Yaping, Zhang Huade, and Gao Weixin
- The dynamical analysis of a two-dimensional simplified Hodgkin-Huxley model.....814
Hu Wang, Yongguang Yu, Mei Wang, and Ran Zhao
- The effects of electrical coupling on the temporal coding of neural signal in noisy Hodgkin-Huxley neuron ensemble.....819
Lijian Yang, Ya Jia, and Ming Yi

Support Vector Machines and Statistical Neural Network Models

- A Fast Training Method for OC-SVM Based on the Random Sampling Lemma.....824
Hongbo Wang, Guangzhou Zhao, and Hong Gu

A New Solution Method to Support Vector Machine Based on Arc Smoothing Function.....	828
<i>Yubo Yuan and Feilong Cao</i>	
A Novel Model of IDS Based on Automatic Clustering Number Determination.....	832
<i>Jing Zhong, Jiang Xiong, Xiaofeng Chen, and hongjuan Wu</i>	
A SVM Incremental Learning Algorithm Based on Hull Vectors and Center Vectors.....	837
<i>Yu Ren and Shengxin Mei</i>	
A SVM-based Method for Detecting Computer Virus.....	842
<i>Jingbo Sun, Wei Chen, and Fen Hu</i>	
An Application of SVM: Blog Templates Recommendation System.....	845
<i>Fong-Ming Shyu and Hsiang-Yuen Liao</i>	
An Effective Method For Abrupt Scene Change Detection.....	850
<i>Wenzhe Liu</i>	
An Improved Ordinal Regression Approach with Sum-of-Margin Principle.....	853
<i>Bing-Yu Sun, Xiao-Ming Zhang, and Wen-Bo Li</i>	
Assessment of Surface Contamination Condition of Insulator Based on Attribute Reduction Algorithm of Rough Sets and Least Squares Support Vector Machine.....	858
<i>Shangbin Jiao and Ding Liu</i>	
Automatic Incident Detection Algorithm Based on Support Vector Machine.....	864
<i>Lairong Chen, Yuan Cao, and Ronghua Ji</i>	
Classification Based on SVM of Cultural Relic Videos' Key Frame.....	867
<i>Hu yaqi and Zhai guangyu</i>	
Collaborative Modulation Recognition Based on SVM.....	871
<i>Xiaojie Gong , Li Bian , and Qi Zhu</i>	
Efficient Geometric Algorithms for Support Vector Machine Classifier.....	875
<i>Xinjun PENG</i>	
Electric Load Forecasting Using Bayesian Least Squares Support Vector Machine.....	880
<i>Xiaoxia Zheng</i>	
Evolution Modeling of Complex Network Base on Spatial Structure.....	884
<i>Fangfeng Zhang and Chunhui Chen</i>	
Feature Selection for Ensembles Using Non-dominated Sorting in Genetic Algorithms.....	888
<i>You Ji and Shiliang Sun</i>	
FS_KPARD: An Effective SVM Feature Selection Method.....	892
<i>Tinghua Wang</i>	
Online Training of Support Vector Regression.....	896
<i>Haisheng Li</i>	
Optimized Control on model of unburned carbon content in fly ash of station boilers.....	903
<i>Liu Chang-liang , Gao Yu, Cui Jing, and Hou Xudong</i>	
Predicting brix of intact pears by a portable NIR spectrometry with LS-SVM.....	909
<i>Yan-de Liu, Rong-jie Gao, Xu-dong Sun, Ai-Guo Ouyang, Yuan-yuan Pan, and Xiaoling Dong</i>	
Research on The Application of BP Neural Network in Construction Control for Cable Replacement of The Cable-Stayed Bridge.....	914
<i>Quansheng Sun, Xiaoguang Guo, Deping Zhang, Xikun Guan, and Qingchen Zhang</i>	

Shadow Removing in a Surveillance System By a Multi-resolution Classification Strategy.....	919
<i>Yinghua He and Kunlong Zhang</i>	
Support Vector Machine Based Classification Analysis of SARS Spatial Distribution.....	924
<i>HU Bisong and GONG Jianhua</i>	
Support Vector Machine Image Segmentation Algorithm Applied to Angiogenesis Quantification.....	928
<i>Zhongyu Xu, Fen Hu, Hongcheng Guo, and Quansheng Dou</i>	
SVM Based Ore Grade Valuation Model Construction.....	932
<i>Cuiping Li, Juan Li, Zhongxue Li, and Enji Sun</i>	
The Coupling Method of Solution Path and Simulated Annealing for Similarity Analysis of Structural Acoustic-Vibration Systems.....	936
<i>Liquan Mei, Shujuan Zhang, and Zhiliang Zhou</i>	
The Prediction of the Medium term power Load Based on Combined Model of the Bayes Theory and LS-SVM.....	940
<i>SONG Qiang and WANG Ai-min</i>	
The Study of Norm Vacuum for Duplex Pressure Condenser Based on Support Vector Regression and Genetic Algorithm.....	945
<i>Lei Wang, Wei Sheng, and Ruiqing Zhang.</i>	
Time Series Prediction based on Sparse SVR.....	949
<i>Jun-Feng Zhang and Dong Sui</i>	
Ultrasonic Image Classification Based on ICA&SVM.....	954
<i>Weishi Chen, Tiejun Liu, and Baofa Wang</i>	

Principal and Independent Component Analysis

A Bi-Directional Compressed 2DPCA for Palmprint recognition based on Gabor wavelets.....	958
<i>Shuang Xu, Jidong Suo, JiYin Zhao, and Jifeng Ding</i>	
An Asynchronous Low Latency Ordered Arbiter for Network on Chips.....	962
<i>Yu Liu, Xuguang Guan, Yang Yang, and Yintang Yang</i>	
Face recognition based on the quotient image method and sparse representation.....	967
<i>Zhonghua Liu, Jingbo Zhou, Jun Yin, and Zhong Jin</i>	
Natural gradient for temporally dependent component analysis.....	972
<i>Zhenwei Shi, Dalong Cheng, Xueyan Tan, and Zhiguo Jiang</i>	
Two-dimensional sparse principal component analysis: a new technique for feature extraction.....	976
<i>Cuntao Xiao and Zhenyou Wang</i>	
Using KPCA feature selection and fusion for Intrusion Detection.....	981
<i>Ruixia Zhang and Guojian Zhi</i>	

Self-Organizing Maps

A Growing Mixed Self-Organizing Map.....	986
<i>Wei-Shen Tai and Chung-Chian Hsu</i>	

A New Cross-layer Power Allocation Scheme in Distributed Antenna Systems.....	991
<i>Jianxin Dai and Ming Chen</i>	
Fault Diagnosis of Engine Mission Using Modified Elman Neural Network.....	996
<i>Yu guo Wu, Chong zhi Song, and Li Ping Shi</i>	
Frequency forecast and trend of time record of area landslide based on R/S analysis.....	999
<i>Xiaoyi Fan and Jianping Qiao</i>	
Probabilistic neural networks and fractal method applied to mineral potential mapping in Luanchuan region, Henan Province, China.....	1003
<i>Gongwen Wang, Shouting Zhang, Changhai Yan, and Yaowu Song</i>	
Statistical Dynamic Modeling on Ecosystem Patterns.....	1008
<i>Yi Chen, Li He Chai, and Xin Zhang</i>	

Neurodynamics and Spiking Neurons

Comparison of delay influence in electrical and chemical synaptic coupled neurons systems.....	1013
<i>Yujuan Wang and Lin Ji</i>	
Design and Stability Analysis for an Adaptive Neural Network Backstepping Control of Nonlinear System.....	1017
<i>Xiaoli Liang</i>	
Robust non-monotonic relationship between output correlation and strength of inhibitory feedback.....	1024
<i>Jinli Xie, Zhijie Wang, and Haibo Shi</i>	
Spike Sorting Based on Radial Basis Function Network with Overlap Decomposition.....	1029
<i>Min Dai and Su-Rui Hu</i>	

Other Theoretical Topics in Neural Computation (I)

A method for designing S-box based on chaotic neural network.....	1033
<i>Yong Wang, Li Yang, Min Li, and Sihong Song</i>	
A Neural Network Classifier Based on Prior Evolution and Iterative Approximation Used for Leaf Recognition.....	1038
<i>Liwen Gao, Xiaohua Lin, Mi Zhong, and Junmin Zeng</i>	
A New Method about Spatial Data Query Based on the R*Q-tree.....	1044
<i>Guobin Li and Jine Tang</i>	
A New Model of Neuron Connection.....	1048
<i>Dixing Wang and Shengjie Ma</i>	
A Novel DoubleMinOver Classifier Based On Second-order Tensor.....	1053
<i>Zhe Wang, Rui Han, Zhisong Pan, and Xuelei Ni</i>	
A novel hybrid Ggenetic algorithm for global optimization.....	1058
<i>Shuihua Wang and Lenan Wu</i>	
A Tribological ANN-model of Triphenyl Phosphate (TPP) Acting on Rapeseed Oil.....	1062
<i>Hui Liu, Jingyu Liu, Shuo Zhang, and Jinjian Xiao</i>	

Almost sure exponential stability of stochastic recurrent neural networks with time-varying delays.....	1066
<i>Li Wan and Qinghua Zhou</i>	
Application of the Grey Theory and the Neural Network in Water Demand Forecast.....	1070
<i>Junping Liu and Mingqi Chang</i>	
Approximation Performance Analysis of Recurrent Neural Networks.....	1074
<i>Shuang Cong, Ming Yu, and Yi Dai</i>	
Blind multi-valued signals detection using discrete Hopfield network.....	1079
<i>Yun Zhang and Zhi-yong Zhang</i>	
Characteristics of long-term climate change in Beijing with Detrended Fluctuation Analysis.....	1084
<i>Zuofang Zheng</i>	
Condition Prediction of Flue Gas Turbine Based on Echo State Network.....	1089
<i>Xiao-li XU , Tao CHEN, and Shao-hong WANG</i>	

Author Index

2010 Sixth International Conference on Natural Computation

(ICNC 2010)

**Yantai, China
10-12 August**

**Volume 3
Pages 1093-1648**



**IEEE Catalog Number: CFP10CNC-PRT
ISBN: 978-1-4244-5958-2**

2010 Sixth International Conference on Natural Computation

ICNC 2010 Table of Contents Volume - 3

Preface.....	xiii
Organizing Committee.....	xiv
Program Committee	xv
Reviewers.....	xviii

Other Theoretical Topics in Neural Computation (II)

Existence and exponential stability of periodic solution for Cohen-Grossberg neural networks with hybrid delays.....	1093
<i>Xinhua Zhang,Zuoan Li,and Kelin Li</i>	
Fluorescence Analysis Of Oil Inclusions Based on BP Algorithm.....	1098
<i>Ren Weiwei,Zhang Jinliang,and Tang Mingming</i>	
Generating Multi-dimensional Discrete Distribution Random Number.....	1102
<i>Xiaoping Hu and Hairong Cui</i>	
IT Operational Risk Assessment and Control Model based on Bayesian Network.....	1105
<i>Xiaoling Hao and Nan Yang</i>	
Job Shop Heat Treatment Scheduling for Flexible Manufacturing System.....	1110
<i>Wenmin Miao,Dongni Li, and Junjie Jiang</i>	
Learning Performance of Fisher Linear Discriminant based on Markov Sampling.....	1114
<i>Bin Zou,Zhiming Peng,Huihua Fan,and Jie Xu</i>	
Neural Harmonic Response Analysis for the Aperiodic Steady Response of Linear Systems.....	1119
<i>Canchang Liu,Shan Chai, and Yingzi Xu</i>	
Neural Networks for Interpolation of functionals on a Hilbert space.....	1122
<i>Jianwei Zhao and Feilong Cao</i>	
Novel Global Exponential Stability Criterion for BAM Neural Networks with Time-varying Delays.....	1126
<i>Fen Wang and Huaiyu Wu</i>	

Optimization Design for Eddy Current Sensor of Water Cutting Robot.....	1131
<i>Haiying Wang, Jie Hou, and Hongyong Zhang</i>	
Optimization of Prime Modules Multiplicative Linear Congruential Generators for Genetic Algorithms.....	1135
<i>Xiangzhong Xu, Lijun Pan and Xuehui Yang</i>	
Outlier Data Forecasting of Power Load Based on Neural PS.....	1140
<i>Guanyu Pan, Hui Yan, Quansheng Dou, and Haijun Li</i>	
Overview of Optimization Algorithms in facility Allocation Problems.....	1143
<i>Liu Li, Qiao YanYou, and Liang Wei</i>	
Study on the Cutting Force Prediction of supercritical material Milling.....	1148
<i>Hongtao Chen, Dengwan Li, Sui Huang, and Pan Fu</i>	
The Application of the Synchronous Improved Grey-Neural Network Model in Predicting of Oil-gas Pipeline Corrosion Rate.....	1153
<i>Zhang Furen, Sun Jie, and Zhang Huamin</i>	
The Improvements of the Method of the Practical Determination of H-Matrix.....	1157
<i>Rong Yue and Fangfang Ma</i>	
The method of Structure Configuration for Vehicle Leaf-Spring Based upon BP Neural Network.....	1162
<i>Bin He</i>	
The Research of Margin Setting Model Based on Improved BP Neural Network Technology.....	1167
<i>Jia Liu and Dong-hua Zhu</i>	

Neural Network Applications

Neural Networks in Pattern Recognition and Diagnostics

A Data Mining approach to predict mass movements induced by seismic events in Sichuan, China.....	1172
<i>Fabio Teodoro de Souza, and Zhaoyin Wang</i>	
A Fuzzy Pattern Recognition Method of Radar Signal Based on Neural Network.....	1178
<i>Chen Ting and Chen Wei</i>	
A Real-Time Hybrid Intrusion Detection System Based on Principle Component Analysis and Self Organizing Maps.....	1182
<i>Xiaorong Cheng, and Shanshan Wen.</i>	
An Integrated Faults Classification Approach Based on LW-MWPCA and PNN.....	1186
<i>Qing Yang, Feng Tian, Dongsheng Wu, and Dazhi Wang</i>	
Application of Artificial Neural Network to Failure Diagnosis on Process Industry Equipments.....	1190
<i>Chen Ming, Zhou Runqing, Zhang Rui, and Zhu Xianzhong</i>	
Automatic Roads Extraction From High-resolution Remote Sensing Images Based on SOM.....	1194
<i>HAO Ying, WANG Li-qiang, and ZHAO Xi'an</i>	
Bacteria Classification Using Neural Network.....	1199
<i>Ying Zhu, Zhiye Wang, Jianping Zhou, and Zhaobin Wang</i>	

Chinese Video Characters Recognition based on Cluster and Multi Neural Network.....	1204
<i>Wei Li and Junyi Wang</i>	
Color moving object segmentation based on Mixture Gaussian Models.....	1208
<i>Aiyun Yan, Jingjiao Li, Aixia Wang, and Jiao Wang</i>	
Curvelet Feature Extraction for Face Recognition and Facial Expression Recognition.....	1212
<i>Xianxing Wu and Jieyu Zhao</i>	
Detecting Mammography of Breast Microcalcification with SOL-based Self-Organization Neural Network.....	1217
<i>Chien-Pen Chuang, Shiunn-Shin Lee, Jia-Shiunn Tsai, and Tai-Jung Kuo</i>	
Detection of Cowpea weevil (<i>Callosobruchus maculatus</i> (F.)) in soybean with hyperspectral spectrometry and a backpropagation neural network.....	1223
<i>Zhiyan Zhou, Ying Zang, Binbin Shen, Xuecheng Zhou, and Xiwen Luo</i>	
Diagnosis of Endometrial Cancer based on Near Infrared Spectroscopy and General Regression Neural Network.....	1228
<i>Yuhong Xiang, Jing Tian, Zhuoyong Zhang, and Yinmei Dai</i>	
Driver Lane Changing Behavior Analysis Based on Parallel Bayesian Networks.....	1232
<i>Li Liu, Guo-qing Xu, and Zhangjun Song</i>	
Fault Diagnosis of Bearing Using Wavelet Packet Transform and PSO-DV Based neural network.....	1238
<i>Bo Liu and Hongxia Pan</i>	
Feature Extraction of EEG Signals from Epilepsy Patients Based on Gabor Transform and EMD Decomposition.....	1243
<i>Lisheng Chen, Erbo Zhao, Dahui Wang, Zhangang Han, Shouwen Zhang, and Cuiping Xu</i>	
Fluorescence Spectrum Recognition of Pesticides Based on Wavelet Neural Network.....	1248
<i>Ruikun Gong, Yansong Tian, Yinjie Fu, Yanjun Zhao, Guangxiang Zhang, and Lei Chen</i>	
Forecasting Model of Mine Construction Project Accidents Based on SOM Neural Network.....	1252
<i>NING De-chun, WANG Jian-ping, and WANG Wen-shun</i>	
Hot-film Sensor Calibration using Adaptive Neural-fuzzy Inference System.....	1256
<i>Chuan-Zhong Xuan, Zhi Chen, Pei Wu, Yong Zhang, and Wang Guo</i>	
ICA-Based Feature Extraction and Automatic Classification of AD-Related MRI Data.....	1261
<i>Wenlu Yang, Halei Xia, Bin xia, Lok Ming Lui, and Xudong Huang</i>	
Identification Method of Gas-liquid Two-phase Flow Regime Based on Distance Evaluation.....	1266
<i>SUN Bin and WANG Hong</i>	
Investigation on Flow Instrument Fast Fault Detection Based on LSSVM Predictor.....	1271
<i>Huaqiang ZHANG, Xiaoyan ZHANG, and Shuo ZHANG</i>	
Mine Fan Fault Diagnosis Based on the Lifting Wavelet Packet and Support Vector Machines.....	1276
<i>Junfa Leng and Shuangxi Jing</i>	
On-Line Predicting Diesel Engine EGR Rate Based on Chaos-Neural Networks.....	1281
<i>Hu Ming-jiang and Zhu Kai</i>	

Path Optimization Based on Hybrid Intelligent Algorithm of Emergency Logistics.....	1285
<i>Yanbing JU,Lingyun SUN,and Aihua WANG</i>	
Predication Emission of an Intelligent Marine Diesel Engine Based on Modeling of BP Neural Networks.....	1290
<i>Mingyv Wang , Shaojun Zhang, Jundong Zhang, and Qiang Ma</i>	
Prediction of wind-induced pressures on long-span roofs with complex shape using artificial neural networks.....	1297
<i>Xu An and Zhao Ruohong</i>	
RBF Network Based on Artificial Immune Algorithm and Application of Predicting the Residual Life of Injecting Water Pipeline.....	1305
<i>Liu Hong, Fan Mujiao, Zeng Qingheng and Shen Xiangdong</i>	
Research of palm print Identification Method using Zernike moment and Neural Network.....	1310
<i>Wang-li Yang and Li-li Wang</i>	
Study on the Abnormal Traffic Status Alarming Based on the Neural Architecture.....	1314
<i>Yin ZHU</i>	
Study on Tool Wear Identifying Based on Fuzzy Neural Network.....	1318
<i>Jianping Liu and Guangwei Li</i>	
The Application of Intellectual Controlling Method on Slicing Machine Control System.....	1322
<i>Shuleng Dong, Chuanguang Wang, Hongwei Mao, and Lihui Wang</i>	
The Applied Research of Support Vector Machine in bus fault identification.....	1326
<i>Hong Song and Hao Wu</i>	
The Incremental Probabilistic Neural Network.....	1330
<i>Jialiang Kou,Shengwu Xiong,Shuzhen Wan, and Hongbing Liu.</i>	
The Magnetic Inrush Current and Internal Fault Types Recognition in Transformer Based on Probabilistic Neural Network.....	1334
<i>Hao Wu,Chenghua Fu,Hui Guo, and ChangZhong Chen</i>	
Tool Wear Monitoring Based on Novel Evolutionary Artificial Neural Networks.....	1339
<i>Hongli Gao,Dengwan Li,Mingheng Xu,Min Zhao,Xiaohui Shi, and HaiFeng Huang</i>	
Tool wear states recognition based on integrated neural networks.....	1344
<i>Pan Fu, Jiang Li, Weilin Li ,and A.D.Hope,</i>	

Neural Networks in Robotics and Intelligent Control

A Optimal Control Method with Hopfield Neural Networks.....	1349
<i>Shao-bai Zhang, and Xie-feng Cheng</i>	
Analysis of Energetic Swarms With General Topology.....	1353
<i>Jietao Zou,Fangxia Zhao, and Bo Liu</i>	
Application of Wavelets Neural Network in Superheated Temperature Control System.....	1357
<i>Wending Liu, Wen Yan, Jiangming Kan,and Yongchao Li</i>	

Application of Artificial Intelligence Technologies for Monitoring Large Power Interconnections.....	1360
<i>V.G. Kurbatsky and N.V.Tomin</i>	
Consensus of Multi-agent Systems Based on Leader-following Control.....	1366
<i>Bo Liu,Xinmao Zhu,Jie Zhang, and Yue Sun</i>	
Consensus Strategies of Multiple Agents System.....	1371
<i>Bo liu,Zhimin Zhao, Jie Zhang ,and Ping Dong</i>	
<i>Intelligent Neural Network Control System for Gas Metal Arc Welding.....</i>	<i>1376</i>
<i>Shi Yu, Liang Weidong, Xue Cheng, Fan Ding, and Chen Jianhong</i>	
Precision position tracking control for giant magnetostrictive smart component based on CMAC self-learning.....	1380
<i>Xiao-mei Sui and Yi Huang</i>	
Quality Predictive Control of Gear Heat Treatment Based on Elman.....	1384
<i>Haitao Su,Xiaowei Ma, and Shanjia Tian</i>	
Recurrent Neural Network Control for Nonlinear Friction with Sliding Mode and Friction Estimator.....	1387
<i>Seong Ik Han, Kwon Soon Lee,Dae Yeon Yeo, ,Kyung Wan Koo, , Sae Han Kim,and Woo Young Ahn</i>	
Study on Fuzzy Neural Network-Based Ship Autopilot.....	1393
<i>Yanxiang Wu,Minjie Xue, and Pengjie Wu</i>	
The control method of adaptive backstepping and Neural Network in the application of a parallel robot.....	1397
<i>Guoqin Gao,Qin Yan, and Yanzhong Wu</i>	
The Research of Sampling Frequency for A DC Servo Motor Speed Control System Based on Neural Networks.....	1401
<i>Ming-Huei Chu,Yi-Wei Chen,Yuan Kang, and Zhi-Wei Chen</i>	
The Self-organizing Map and Fuzzy Control for Sensorless Induction Motor Speed Control.....	1406
<i>Yang Rongfeng, Wang Gaolin, Yu Yong, and Xu Dianguo</i>	
The Sliding Mode Controller for automotive ABS Based on the Fuzzy Neural Network.....	1410
<i>Yan-e Mao,Yifei Zhang,and Tao Liu</i>	

Neural Networks in Signal Processing and Multimedia

<i>Application of Filtering fusion for FOG Based on Improved RBF Neural Network.....</i>	<i>1414</i>
<i>Chong Shen and Xiyuan Chen</i>	
Denoising method for cracks of Hydraulic turbine blades based on independent component analysis.....	1419
<i>Xiang-hong WANG, Yi-min SHAO,Hong-wei HU,and Jun-qin FU</i>	
Design and Implementation of Marine Dumping Area's Monitoring System Based on GPS/GPRS.....	1423
<i>Guoliang Zou , Bing He, Dongmei Huang, and Xianghong Kong</i>	
Fast Decryption Utilizing Correlation Calculation for BSS-based Speech Encryption System.....	1428
<i>Da-Peng Guo and Qiu-Hua Lin</i>	

Hybrid Intelligent Pre-processing System of Parameters in Heating Furnace Control.....	1433
<i>Chen Youwen and Chai Tianyou</i>	
Image identification based on the Compound Model of Wavelet Transform and Artificial Neural Networks	1438
<i>Guojin Chen, Miaofen Zhu, Yongning Li, and Wanqiang Wang</i>	
Multi-sensor information fusion based on BP network.....	1442
<i>Guoyu Li</i>	
RBF neural networks analysis on electrical signal in Chrysanthemum coronarium.....	1446
<i>Lanzhou Wang and Qiao Li</i>	
Research on Neural Network Blind Equalization Algorithm with Structure Optimized by Genetic Algorithm.....	1451
<i>Liyi Zhang, Ting Liu, Yunshan Sun and Lei Chen</i>	
Static Effect of Magneto Tellric Data Processed by Neural Network	1455
<i>Gong Yu-Rong, Tang Jing-Tian and Cai Jian-Hua</i>	
Applying Hopfield Neural Network to Defect Edge Detection of Wood Image	1459
<i>Dawei Qi, Peng Zhang, Xuejing Jin, and Xuefei Zhang</i>	
Visual Tracking by Appearance Modeling and Sparse Representation.....	1464
<i>Qing Wang, Feng Chen, and Wenli Xu</i>	
Wavelet Neural Network Based on Compound Model PSO with Stochastic Inertia Weigh and Its Application in Choosing Tested Positions of Gearbox.....	1469
<i>Ying Liu, Shuang Sun, and Jie Liu</i>	

Neural Networks in Other Application Domains (I)

A Classification Study of marine phytoplankton on the base of improved SVM.....	1473
<i>Feng Feng, Liu Longlong, Zhu Yao, and Xu Xin</i>	
A Fault Line Selection Algorithm Using Neural Network Based on S-Transform Energy.....	1478
<i>Shu Hongchun, Qiu Gefei, Li Chaofan, and Peng Shixin</i>	
A Hybrid Intelligent Early Warning System for Predicting Economic Crises: The Case of China.....	1483
<i>Dongwei Su and Xingxing He</i>	
A Logistics Demand Forecasting Model Based on Grey Neural Network.....	1488
<i>Fangzhong Qi, Da Yu and Bernhard Holtkamp</i>	
A Neural Network Model for Deformation Prediction of Deep Foundation Pit based on Multivariate Phase Space Reconstruction.....	1493
<i>Xuefeng Xi, Jianmin Ban, Anyong Li, and Weizhong Lu</i>	
A New Intelligent Method for Flow Regime Identification in Cooling pump of Engine.....	1498
<i>LI Li-hong, XU Xiang-yang, JI Fen-zhu, LIU Yanfang, and LI Xiao-li</i>	
A New Method Based on MTL and LS-SVM for Crosstalk Predicting in Electric Vehicle.....	1503
<i>Sun Tie-Lei and Lin Cheng</i>	

A Semi-Supervised Style Method for Haplotype Assembly Problem Based on MEC Model.....	1508
<i>Xinshun Xu</i>	
Adaptive Multimodal PID Controller Based on RBF Neural Network for A DSRV.....	1513
<i>Guoqing Xia , Shuning Zhang, Yuanhui Wang, and Zhaodong Tang</i>	
AFSSs-RBF neural network for predicting earthquake-induced liquefaction of light loam.....	1518
<i>Dongxue Hao and Rong Chen</i>	
An Air Quality Forecast Model Based on the BP Neural Network of Samples Self-Organization Clustering	1523
<i>Jiang Zhifang, Mao Bingq, Meng Xiangxu , Du Xiaoliang, Liu Shucheng, and Li shenfang</i>	
An application of support vector machines for image retrieval.....	1528
<i>Xu Ke</i>	
An Approach to Automatic Generating Test Data for Multi-path Coverage by Genetic Algorithm.....	1533
<i>Jianhua Sun and Shujuan Jiang</i>	
An Iterative Control for Driving Model Based on Fuzzy Neural Network.....	1537
<i>Jin jun Tang, Guo zhong Wang, Fang Liu, and Jin min Tang</i>	
Analysis of crack stability in concrete dams with chaos optimized neural network.....	1542
<i>Bao Tengfei, Gu Chongshi, Wu Zhongru, and Yu Hong</i>	
Application of Back-Propagation Artificial Neural Network to Predict Maintenance Costs and Budget for University Buildings.....	1546
<i>Chang Sian, Li, Pei Jia, Chen, and Sy Jye, Guo</i>	
APPLICATION OF DATA MINING IN FAULT Diagnoses FOR MACHINERY.....	1552
<i>Yilun Han and Sun Ming</i>	
Application of fuzzy neural networks for predicting seismic subsidence coefficient of loess subgrade.....	1556
<i>Tian-feng Gu and Jia-ding Wang</i>	
Application of Improved Neural Network Algorithm in Automated Deformation Monitoring.....	1560
<i>Huan Bao, Dongming Zhao, Ziao Fu, Jiang Zhu, and Zhan Gao</i>	
Application of Self-Organizing Feature Map clustering and ordination to the analysis of subalpine meadows in North China.....	1564
<i>Jin-Tun Zhang and Min Li</i>	
Application of Variable Structure Fuzzy Neural Network Adaptive Control in the Temperature Control of Carburizing Furnace.....	1569
<i>Lijun Hao, Zhihong Wang, and Xiaolei Wei</i>	
Approximation of Continuous Functions Defined on a Curve by Feed-forward Neural Networks.....	1573
<i>Zhenghua Zhou, Wanggen Wan, and Xueli Zhou</i>	
ARMA-GRNN for Passenger Demand Forecasting.....	1577
<i>Weiwei Gong</i>	
Artificial neural network analysis for the eco-economic system of Ningbo City.....	1582
<i>Wei Zhao, Baoqiang Qu, and Meirong Guo</i>	

Artificial Neural Network Potential Energy Surface for Silver Nanoparticles.....	1586
<i>Zhe Xu, Susan Lu, Jianbo Li, and Lichang Wang,</i>	
Automatically Face Detection Based on BP Neural Network and Bayesian Decision.....	1590
<i>Xiaoning Liu, Guohua Geng, and Xiaofeng Wang</i>	
BPANN Modeling of Crop Response to Water for the Spring Wheat in Northern China.....	1595
<i>Wei Zhanmin and Chen Yaxin</i>	
Calibration Analysis on Boiling Point of Fatty Alcohols with Artificial Neural Network.....	1601
<i>Guangqin Gao and Jiarong Huang</i>	
Chaotic Neural Networks with Sigmoid Function Self-Feedback and Its Applications.....	1605
<i>Yaoqun Xu and Xueling Yang</i>	
Combination predicting neural network model for E4303 electrode mechanical properties.....	1610
<i>Jun Huang and Yuelan Xu</i>	
Combined Inversion Algorithm of Coal Seam Stress Field based on Wavelet Neural Network and Gradual Loading Algorithm.....	1614
<i>Lisong ZHANG, Xiangzhen YAN, Henglin YANG ,and Xiujuan YANG</i>	
Complex Urban System Simulations Based on Generalized Information Entropy Principle.....	1619
<i>Xiao Shao and Li He Chai</i>	
Construction Project Risk Evaluation Based on Rough Sets and Artificial Neural Networks.....	1624
<i>Guofeng Wen</i>	
Crack Fault Identification in Rotor Shaft with Artificial Neural Network.....	1629
<i>Tao Yu and Qingkai Han</i>	
Creating Fuzzy Control Rules Based on Data Mining.....	1635
<i>Zhongkui Sun, Zhigang Li, Lei Chen, and Jinhua Wang</i>	
Determination of Octane Number of Gasoline by Double ANN Algorithm Combined with Multidimensional Gas Chromatography.....	1640
<i>Ming-yang Liu, Peng Zhou, Ping Kong , Chun-guang Yang, Gang Li ,and Ming-ren Mu</i>	
Effects Simulation of International Natural Gas Prices on Crude Oil Prices Based on WBNNK Model.....	1643
<i>Tang Mingming, Zhang Jinliang, and Tao Mingxin</i>	

Author Index

2010 Sixth International Conference on Natural Computation

(ICNC 2010)

**Yantai, China
10-12 August**

**Volume 4
Pages 1649-2201**



**IEEE Catalog Number: CFP10CNC-PRT
ISBN: 978-1-4244-5958-2**

2010 Sixth International Conference on Natural Computation

ICNC 2010 Table of Contents Volume - 4

Preface.....	xiii
Organizing Committee.....	xiv
Program Committee	xv
Reviewers.....	xviii

Neural Networks in Other Application Domains (II)

Estimating chlorophyll content of Rice under soil contamination stress using BPNN.....	1649
<i>Ping Wang, Fang Huang, Xiangnan Liu, and Ling Zhao</i>	
Estimating reference crop evapotranspiration using HGA-LSSVM.....	1654
<i>Xianghong Guo, Xihuan Sun, and Juanjuan Ma</i>	
Evaluation Model of Artificial Neural Network for City Lifeline Engineering.....	1659
<i>Qingjie Zhu, Yanhua Chen, Baoguo Jing, and Weiwei Liu</i>	
Evaluation of bearing capacity of medium-small span old bridges based on GANN.....	1664
<i>Wenxiong Huang, Hongyin Yang, Hailong Zhang, and Liying Tan</i>	
Evaluation of Condition of Urban Non Revenue Water Based on BP Neural Network.....	1669
<i>Xianli Chen,, Xinan Zhao, and Liangsheng Lv</i>	
Experimental Modeling of Magneto-rheological Damper and PID Neural Network Controller Design.....	1674
<i>Liu Wei, Shi Wen-ku, Liu Da-wei, and Yan Tian-yi</i>	
Fault Diagnosis of Wind Turbine Power Electronic Equipment based on SOM Neural Network.....	1679
<i>Hongche Guo and Bo Wu</i>	
Forecasting Research on the Driving Safety Perception of Horizontal Curves.....	1682
<i>Jinjian Xiao and Jingyu Liu</i>	
High Frequency Data: Making Forecasts and Looking for an Optimal Forecasting Horizon.....	1686
<i>Dusan Marcek, Milan Marcek, and Petr Matusik</i>	

Hybridization of Adaptive Neuro-Fuzzy Inference System and Data Preprocessing Techniques for Tourist Arrivals Forecasting.....	1692
<i>Esmaeil Hadavandi,Hassan Shavandi, and Arash Ghanbari</i>	
Identifying Sentiment Patterns of BBS Reviews Based on Associateve Memory Model.....	1696
<i>Delan Xiong,Delan Xiong, Boping Zhang,and Shengli Tian</i>	
Improved Back-Propagation Neural Network in Ecological Vulnerability Assessment of Zhalong Wetland.....	1700
<i>Bo Fu,Zhen-hong Xie,and Zhong-li Whag</i>	
Intelligent Model of Microwave Low-pass Filter Using PDGS with Defected Rectangles.....	1705
<i>JIN Taobin,JINJie,LIYuan,LI Kejia,and YANG Shan</i>	
Intelligent simulation on refrigeration system using artificial neural network.....	1709
<i>Lige Tong,Li Wang,Shaowu Yin,Xianfang Yue, Yunfei Xie,and Gan Wang</i>	
Learning Evaluation Based on Learning Process Characteristics and Elman Wavelet Network Model.....	1712
<i>Jun Han and Jing Liu</i>	
Long-term Prediction for Autumn Flood Season in Danjiangkou Reservoir Basin Based on OSR-BP Neural Network.....	1717
<i>Yong Liu,Yuanfang Chen,Jian Hu,Qin Huang,and Yintang Wang</i>	
LS-SVM Forecast Model of Precipitation and Runoff based on EMD.....	1721
<i>Zhihong Ding,Jianwei Zhang, and Guoquan XIE</i>	
MapReduce-based Backpropagation Neural Network over Large Scale Mobile Data.....	1726
<i>Zhiqiang Liu,Hongyan Li, and Gaoshan Miao</i>	
Modeling and Prediction of China's Electricity Consumption Using Artificial Neural Network.....	1731
<i>Jian Deng</i>	
Modeling Stand Density Index Based on Artificial Neural Network.....	1734
<i>Jiarong Huang,Guangqin Gao,Xianyu Meng , and Yuxiu Guan</i>	
Modeling Winter Wheat Response to Water in North China with Feed-forward Neural Networks.....	1737
<i>Songhao Shang and Yuanli Wei</i>	
Neural Network-based Aboveground Biomass Estimation in Honghe National Natural Reserve Using TM Data.....	1741
<i>Shuang Li,Zulu Zhang , and Demin Zhou</i>	
Neural-Network-Based Water Quality Monitoring for Wastewater Treatment Processes.....	1746
<i>Liping Fan and Kosta Boshnakov</i>	
New Simulation Method of Ecosystem Evolution Based on Neural Network.....	1749
<i>Yi Jiao Wang,Qing Yi Feng,Hui Wang, and Li He Chai</i>	
Practical Travel Time Prediction Algorithms Based on Nerual Network and Data Fusion for Urban Expressway.....	1754
<i>Dewang Chen,Kun Zhang, and Tao Liao</i>	
Predicting Mechanical Properties of Hot-Rolling Steel by Using RBF Network Method based on Complex Network Theory.....	1759
<i>Bin Wu,Wenbo Ma,Tian Zhu, and Juan Yang</i>	

Prediction of Absolute Humidity of Concrete Gravity Dam Based on Artificial Neural Network.....	1764
<i>Hui PENG,Ping HUANG,,and Wei YAO</i>	
PSO Optimizing Neural Network for the Yangtze River Sediment Entering Estuary Prediction.....	1769
<i>Wenxian Guo and HongXiang Wang</i>	
QSAR Studies of Hallucinogenic Phenylalkylamines by Using Neural Network and Support Vector Machine Approaches.....	1773
<i>Zhuoyong Zhang, Yuhong Xiang, and Liying An</i>	
QSPR study for the prediction of UV maximum absorption wavelength of coumarins by heuristic method and radial basis function neural network.....	1778
<i>Ping Han,Huitao Liu,Yingying Wen,Guangfen Mu, Yuan Gao,and Feng Luan</i>	
Reliability Analysis Using Artificial Neural Networks.....	1783
<i>Changqing Qi and Jimin Wu</i>	
Research Of Information Filtering Model Based On BP Artificial neural network And Genetic Algorithm...	1788
<i>Xuezhi Chi</i>	
Research of Sediment Flux from Yellow River to the Sea Based on Wavelet Analysis and Wavelet Neural Network.....	1792
<i>Zongwen Ma and Xuegong Xu</i>	
Research on ANN-based Model of joint collocation of water quantity and quality.....	1796
<i>Weihua Zeng,Bo Yao, Tao Wang,Hengchen Liu</i>	
Research on Genetic Process Neural Networks and Its Application in Economic Prediction.....	1805
<i>Li Ge</i>	
Research on Selection of tall building structures Based on Artificial Neural Network.....	1808
<i>Li Qin and Xiaoying Ding</i>	
Research on the Growth Model of Aquaculture Organisms Based on Neural Network Expert System...	1812
<i>Changhui Deng, Yanping Gao ,Jun Gu, , Xinying Miao,and Songsong Li</i>	
Research on the Identification of Temperature in Intelligent Building Based on Feed Forward Neural Network and Particle Swarm Optimization Algorithm.....	1816
<i>Liang Chen,Qian-sheng FANG, and Zhen-ya ZHANG</i>	
Seismic Damage Prediction of Multistory Building Using GIS and Artificial Neural Network.....	1821
<i>Jun-Jie WANG,,Hui-Ying GAO, and Ming-Qiong LIU</i>	
Seismic Denoising Based on Modified BP Neural Network.....	1825
<i>Yinxue Zhang , Xuemin Tian,Xiaogang Deng,and Yuping Cao</i>	
Select Landslide Susceptibility Main Affecting Factors by Multi-objective Optimization Algorithm.....	1830
<i>Hongling Tian,Hongli Nan, and Zongji Yang</i>	
Sensibility Analysis Based on BP Arithmetic under Multi-factor Coupling Participation and Its Application.....	1834
<i>Hongyan-Li and Yuxin-Wang</i>	
Short-term Forecasting of Stock Price Based on Genetic-Neural Network.....	1838
<i>Hua Ning Hao</i>	
Simulation of Transportation-Economic Complex System Based on SOM Network.....	1842
<i>Yi Jiao Wang,Qing Yi Feng,Si Jie Chen, and Li He Chai</i>	

Skill and Tactic Diagnosis for Table Tennis Matches Based on Artificial Neural Network and Genetic Algorithm	1847
<i>Wenwu Mao, Lijuan Yu ,Hui Zhang ,Peiliang Ling , Haihang Wang,and Jie Wang</i>	
Solar Proton Events Prediction With Support Vector Machine.....	1852
<i>Rong Li, Yuan Sun ,and Yanmei Cui</i>	
Study of BP Neural Network Model to Dam Deformation Monitoring.....	1856
<i>Zhisheng Tian, Xingnan Zhang, Qingli Zhu, Mingxia Li, and Fang Zhao</i>	
Study of Ride Comfort of Active Suspension Based on Model Reference Neural Network Control System.....	1860
<i>Dawei Liu,Wei Liu,Huanming Chen, and Rongchao Jiang</i>	
Study on BPNN Based Welding Joint Properties Soft Sensing Method.....	1865
<i>Gu Yufen, Xue Cheng, Shi Yu, and Fan Ding</i>	
Study On Tide Prediction Method Based On LS-Support Vector Machines.....	1869
<i>He Shijun, Zhou Wenjun, and Zhou Ruyan</i>	
Supplier Selection Using ANN-based Predictive Model.....	1873
<i>Linwen Xu and Feng Qian</i>	
Synchronization for a class of complex dynamical networks with time-varying delays.....	1877
<i>Qihui Li</i>	
The Amount Prediction of Gas Emitted Via Wavelet Neural Network with Grey Correlation Analysis.....	1882
<i>Yumin Pan,Xiaoyu Zhang, and Pengqian Xue</i>	
The Application of Artificial Neural Network on Forecast of Meiyu Rainfall at Lower Yangtze River Valley	1887
<i>Jianhong Wang, Chunshengng Miao,Zuocheng Yin,Wenxiu Wei , Yu Zhao,and Yunrong Wu</i>	
The application of BPand RBF Model in The Forecasting of The runoff and The Sediment Transport Volume in Linjin Section.....	1892
<i>Jun YAN ,Sainan CHEN,and Changyou JIANG</i>	
The Comparison and Study of small sample data spatial interpolation accuracy.....	1897
<i>Guoliang Zou, Kelei Xue, Dongmei Huang, Cheng Su, and Jie Sun</i>	
The Early Warning and Prediction Method of Flea Beetle Based On Maximum Likelihood Algorithm Ensembles.....	1901
<i>Ting Li , Jingfeng Yang,and Zhimin Chen</i>	
The Quality Prediction of Iron Ore Pellets in Grate-Kiln-Cooler System Using Artificial Neural Network.....	1906
<i>Junxiao Feng,and Yang Qiao</i>	
The Rapid Detection of Undisturbed Soil Moisture Content Based on BPNN.....	1910
<i>XiuYing Liang ,XiaoYu Li, XiaoYu Li ,and TingWu Lei</i>	
Traffic Classification Using Probabilistic Neural Networks.....	1914
<i>Runyuan Sun,Bo Yang,Lizhi Peng,Zhenxiang Chen,Lei Zhang, and Shan Jing</i>	
Traffic Flow Forecasting Based on Rough Set and Neural Network.....	1920
<i>Pang Qingle, Liu Xinyun ,and Zhang Min</i>	

Trend analysis of extreme rainfall based on BP Neural Network.....	1925
<i>Nan Gu and Dingsheng Wan</i>	
Use the Combination of the Decision Tree and the Artificial Neural Networks to Predict the Outcome of Table Tennis Matches.....	1929
<i>Jie WANG,and Lijuan YU</i>	
Vibration Reliability Analysis of Turbine Blade Based on ANN and Monte Carlo Simulation.....	1934
<i>Wei Duan and Zhangqi Wang</i>	

Cognitive Science

Perception

A Computation Model for Orientation Similarity.....	1940
<i>Xiao-fang SHAO,Xin Zhang,and Cui-juan SUN</i>	
Agent-Based Computational Finance Modeling Approach.....	1943
<i>Qian Tao and Fuyuan Xu</i>	
Electrocortical Functional Connectivity during Language Selection in Bilinguals.....	1948
<i>Wenyu Liu, Huili Wang ,and Jian Li</i>	
Face Capture more Attentional Resource than No-face Object: An ERP study.....	1953
<i>Weina Zhu, Dan Xu,Weina Zhu,Junjun Zhang, Yuanye Ma ,Junjun Zhang , Yuanye Ma ,Changle Zhou ,and Lun Zhao</i>	
Facial Complex Expression Recognition Based on Latent Dirichlet Allocation.....	1958
<i>Hui Zhao,Tingting Xue, and Linfeng Han</i>	
Kolmogorov Entropy Changes during the Mental Task of Geometric Figure Rotation Measured with EEG.....	1961
<i>Zhang Lian-Yi</i>	
Pulse Coupled Neural Network Based Topological Properties Applied in Attention Saliency Detection....	1965
<i>Yu Fang,Xiaodong Gu, and Yuanyuan Wang</i>	
Skinner-rat experiment based on Autonomous Operant Conditioning automata.....	1970
<i>Xiaogang Ruan, and Lizhen Dai</i>	
The Non-linear Properties of Spike-Rate Perceptron with Sub-Poisson Input.....	1974
<i>Xuyan Xiang,Yingchun Deng, and Xiangqun Yang</i>	

Emotion

Behavioural Study on Cognition of Clothing Color Based on Brightness.....	1979
<i>Xiao-Feng Jiang, Guo-Lian Liu , Fang Qin,and Wang Shan-shan</i>	
Design of The Emotional Intelligent Tutor System Based on HMM.....	1984
<i>Xuejing Gu,Zhiliang Wang,Jian Zhang,Wei Wang, and Siyi Zheng</i>	
Do Different Emotional Valences Have Same Effects on Spatial Attention?	1989
<i>Xunbing Shen,Xiaolan Fu , and Yuming Xuan</i>	

Emotion Generation for Virtual Human Using Cognitive Map.....	1994
<i>Rui Luo and Jieyu Zhao</i>	
Reduced source memory for emotional pictures.....	2000
<i>Bo Wang and Xiaolan Fu</i>	

Vision and Auditory Models

A novel Visual Attention Model Using Multi-scale Cues.....	2005
<i>Ying Yang,Bo Peng, and Laoji Yang</i>	
An approximate retina model with csacade structures.....	2009
<i>Zhijun Pei and Qingli Qiao</i>	
An Improved AdaBoost Face Detection Algorithm Based on optimizing Skin Color Model.....	2013
<i>Gang Li,Yinping Xu,and Jiaying Wang</i>	
Automatic Pavement Cracks Detection System Based on Visual Studio C++ 6.0.....	2016
<i>Zhaoyun Sun,Wei Li,and Aimin Sha</i>	
Joint Image Fusion Algorithm with OMP and Wavelet.....	2020
<i>Sun Yi, Liu Zhanwei and Li Qin</i>	
Non-native Speech Recognition Based on Speaker Adaptation.....	2024
<i>Hong Wei,Yuanyuan Pu and Jian Yang</i>	
Robust Real-Time Eye Detection and Tracking for Rotated Facial Images under Complex Conditions...	2028
<i>Hong Liu and Qing Liu</i>	
Study on Pilot Attention Allocation Model Based on Fuzzy Theory.....	2035
<i>Xiaoru Wanyan ,Hengyang Wei , and Damin Zhuang</i>	
The spatial Memory Representation from Two Different Learning Manner: Is Sequential Learning Worse than simultaneous Learning?	2040
<i>Xianyun Liu</i>	
Visual Attention & Multi-cue Fusion Based Human Motion Tracking Method.....	2044
<i>Ge Yang and Hong Liu</i>	

Other Topics in Cognitive Science

A Novel Copyright-Proving Scheme Based on Singular Value Decomposition.....	2055
<i>Li LiZong, Gao Tiegang , Gu Qiaolun, and Liu Yun</i>	
Application of Multi-factor Degree Set Pair Analysis Fuzzy Evaluation Model to evaluation of rural Dydro-modernization level.....	2060
<i>ZHANG Zezhong and QI Qingqing</i>	
Attribute Reduction in Concept Lattices Based on Deletion Transformations.....	2065
<i>Xia Wang and Wenxiu Zhang</i>	
Centralized Gabor Gradient Histogram for Facial Gender Recognition.....	2070
<i>Xiaofeng Fu,Guojun Dai,Changjun Wang,and Li Zhang</i>	

Clustering Analysis Strategy of Online Ambulatory Electrocardiogram Waveforms.....	2075
<i>Zheng Gang , Mou Shanling , Yu Tian, and Gu Yuan</i>	
Cognitive model based method for earthquake damage assessment from high-resolution satellite images: A study following the WenChuan earthquake.....	2079
<i>Chunxiao Zhang, Tianbao Wang, Xiang Liu, and Shuo Zhang</i>	
Collision Avoidance in Pedestrian Micro-simulation.....	2084
<i>Chunxia Gao and Baotian Dong</i>	
Consumer's Cognitive Response-based Creative Product Design Process.....	2087
<i>WU Zhi-jun, LI Liang-zhi, Chen Yu, and Cai Yan</i>	
Dynamic spectrum allocation engine based on DS theory and potential game.....	2092
<i>Yun Zhang, Yujun Feng, Di Wu, Chenxi Hou, and Peng Qiu</i>	
Effect of Fingerpad Mechanics and Anatomical Structures on Tactile Detection of Compliant Object.....	2097
<i>Hu Jiyong, Ding Xin, and Wang Rubin</i>	
Existences of Two Solutions of One-Dimensional Computational Verb Cellular Networks.....	2102
<i>Li Zheng, Xiaoli Lin, Fei Qiao, and Tao Yang</i>	
Face Recognition based on Log-Gabor and Uncorrelated LDE.....	2107
<i>Qingjun Wang, and Rubo Zhang</i>	
Feature Extraction and Classifier Evaluation of EEG for Imaginary Hand Movements.....	2112
<i>Xiaoyan Qiao, Yanjing Wang, Douzhe Li, and Lifeng Tian</i>	
Interaction design of Children's mobile phone for enhancing cognitive ability.....	2117
<i>Yu Chen, Rong Yong, and Liangzhi Li</i>	
Knowledge Points Organization Model Based on AND/OR Graph in ICAI.....	2121
<i>Shuyan Li, Xiangnan Li, and Lei Wang</i>	
Learning through Organizational Citizenship Behavior.....	2125
<i>Jin-Zhao Deng</i>	
Method for monitoring river sediment on-line using image slice based on five-point.....	2129
<i>ZHU-Bing , TAN Bin, ZHOU Xu-yan, and Liu Xue-mou</i>	
Natural Behavioral Patterns of Speech Recognition Error Recovery.....	2135
<i>Licheng Xue and Xianghong Sun</i>	
Processing Method Study for Slide-scar of Sliding Fingerprint Based on Quality Evaluation and Direction Judgment.....	2139
<i>Jie Lu, Xuxiao Hu, and Puyu Wang</i>	
Research into the Markov Property in Mental Lexicon of Chinese English Learners Based on Spreading Activation Model.....	2145
<i>Huili Wang and Yan Hou</i>	
Research on Regional Tourism Planning Spatial Decision Supporting System.....	2150
<i>Liangsong Zha and Yingying Wang,</i>	
Simulation for Strategy of Maximal Wind Energy Capture of Doubly Fed Induction Generators.....	2154
<i>Le-peng Song and Hui Li</i>	
Speech Analysis based on Locally Linear Embedding(LLE)	2159
<i>Lifang Xue and Tingjun Qian</i>	

Study on Association between User's Personality and Individual Characteristic of Left Prefrontal Pole EEG Activity.....	2163
<i>Shin-ichi Ito, Yasue Mitsukura, Katsuya Sato, Shoichiro Fujisawa, and Minoru Fukumi</i>	
Study on the optimal dynamic programming method and its application based on long-term average annual energy output.....	2167
<i>Chongxun MO , Qunchao DU, Xinyi FAN, and Fanggui LIU</i>	
The cognitive processes related to deceptive responding.....	2172
<i>Shi-Yue Sun and Yue-Jia Luo</i>	
The Contents of Visual Working Memory on Visual Search.....	2176
<i>Haibo Yang, Shasha Yin, and Xuejun Bai</i>	
The Foundation of JOLs and Influencing Factors.....	2181
<i>Gongxiang Chen and Xiaolan Fu</i>	
The Research of Building Production-oriented Data Mart for Mine Enterprises Based on Data Mining....	2186
<i>Xinrui Liu, Hongbin Ma, Hongdi Zhao , and Fengyu Ren</i>	
The Training Strategy in Brain-Computer Interface.....	2190
<i>Bin Xia, Wenlu Yang, Xiao Dianyun, and Wang Cong</i>	
Typical Scenarios and Influencing Factors on Speech-handwriting.....	2194
<i>Licheng Xue, Xianghong Sun, Xia Wang, Huanglingzi Liu, and Ying Liu</i>	
“Overwriting”, not “Competing”, Characterizes the Visual Working Memory Consolidation.....	2197
<i>Huiming Sun, Hubert Zimmer, and Xiaolan Fu</i>	

Author Index

2010 Sixth International Conference on Natural Computation

(ICNC 2010)

**Yantai, China
10-12 August**

**Volume 5
Pages 2202-2773**



**IEEE Catalog Number: CFP10CNC-PRT
ISBN: 978-1-4244-5958-2**

2010 Sixth International Conference on Natural Computation

ICNC 2010 Table of Contents Volume - 5

Preface.....	xiii
Organizing Committee.....	xiv
Program Committee	xv
Reviewers.....	xviii

Theory and Algorithms of Natural Computation

Genetic and Evolutionary Algorithms

A Bi-directional Chaos Optimization Algorithm.....	2202
<i>Ying Song</i>	
A Binary-Differential Evolution Algorithm Based on Ordering of Individuals.....	2207
<i>Yang Lou, Junli Li, and Yongsheng Wang</i>	
A General Formulation of 2nd-order Polynomial Smooth Support Vector Machines.....	2212
<i>JIANMIN XU ,JINZHI XIONG, and LI KANG</i>	
A genetic algorithm for multiobjective path optimisation problem.....	2217
<i>Ching-Sheng Chiu</i>	
A hybrid Genetic Algorithm in PBRDF modeling.....	2223
<i>FENG Weiwei, WEI Qingnong, LI Jinhua, and CHEN Lingxin</i>	
A k-Nearest Neighbor Text Classification algorithm Based on Fuzzy Integral.....	2228
<i>Xianfei Zhang, Bicheng Li, and Xianzhu Sun</i>	
A Kind of Composite Shuffled Frog Leaping Algorithm.....	2232
<i>Xiaodan Zhang, Feng Hu, Jianeng Tang, Cairong Zou, and Li Zhao</i>	
Genetic algorithm for determination of longitudinal dispersion coefficient in river.....	2236
<i>LIU Xiaodong, XUE Hongqin, Xie Zengfang, and YAO Qi</i>	
A Niche Quantum Genetic Algorithm used in Multi-peak Function Optimization.....	2239
<i>Hong-mei Ni and Wei-gang Wang</i>	
A Novel Coding Strategy for GA-based Numerical Optimization.....	2243
<i>Ma Minshu, Lv Yongbo, and Liu Jun</i>	

A Novel Genetic Algorithm with Multiple Sub-population Parallel Search Mechanism.....	2249
<i>Feng Lu ,Yanfeng Ge,and LiQun Gao</i>	
A self-adaptive Differential Evolution Algorithm for Binary CSPs.....	2254
<i>Hongjie Fu,Dantong Ouyang, and Jiaming Xu</i>	
A Study of Method on Automobile Form Feature Lines Evolutionary Design Driven by Users' Expectation Image.....	2259
<i>Hu Weifeng, Zhou Haihai, and Chen Li</i>	
A Study on Feature Extraction of Parallel Immune Genetic Clustering Algorithm based on Clustering Center Optimization.....	2264
<i>Juan Zou, Jinhua Zheng, Jingye Zhou, and Deng Cheng</i>	
An adaptive Geodesic Active Contour model.....	2267
<i>Bo Zhang, Yongli Su, Yongfeng Xu, and Shuling Zhang</i>	
An Effective Hybrid Crossover Operator for Genetic Algorithms to Solve K-means Clustering Problem...	2271
<i>Jianxin Wang,Haiyan Zhang,Xiaoli Dong,Liren Li,Ben Xu, and Benjin Mei</i>	
An Efficient Real-coded Genetic Algorithm for Real-Parameter Optimization.....	2276
<i>Zhi-Qiang Chen and Rong-Long Wang</i>	
An Inexact Approach Based on Genetic Algorithm for Fuzzy Programming Problems.....	2281
<i>Weiyi Qian</i>	
An Integrated Evolutionary Algorithm for Expensive Global Optimization.....	2286
<i>Changtong Luo, Chun Wang, Zonglin Jiang, and Shao-Liang Zhang,</i>	
Application of Genetic Algorithms in a Surface Deformation Measurement Technique.....	2291
<i>Huaiwen Wang and Zhigang Hou</i>	
Application of RAGA based on SA in Calculating Critical Water Depth of Open Channel.....	2296
<i>Fanggui LIU, Lufeng YANG, Shengju XIAO, and Donghui ZHANG</i>	
Back Analysis on Mechanical Parameters Based on a Master-slave Parallel Genetic Algorithm.....	2301
<i>Zhang Zhi-zeng and Zhong-kui Li</i>	
Comparisons of Quantum Rotation gates in Quantum-Inspired Evolutionary Algorithms.....	2306
<i>Hua Zhang,Gexiang Zhang,Haina Rong, and Jixiang Cheng</i>	
Constraint Solving Approach Based on Differential Evolution Algorithm for Geo-visualization Variant Design Method.....	2311
<i>Gang Liu, Kunqi Liu, and Chonglong Wu</i>	
Convergence Analysis on An Improved Mind Evolutionary Algorithm.....	2316
<i>Zhijun Zhang,Yuxia Qiu, and Keming Xie</i>	
Design and Simulation a Fuzzy-adaptive PI Controller Based on MRAS.....	2321
<i>Hui-ying Dong , Wen-guang Li , Yu Zhao, and kai Lin,</i>	
Dynamic shortest path in stochastic traffic networks based on fluid neural network and particle swarm optimization.....	2325
<i>Yanfeng Deng,Hengqing Tong, and Xiedong Zhang</i>	

Efficiency Comparison of Simulated Annealing Algorithm and Genetic Algorithm in Feature Selection.....	2330
<i>Chang Wan</i>	
Electronic Circuits Automatic Design Algorithm.....	2334
<i>Xuesong Yan and Jian Jin</i>	
Estimating the Runtime of Evolutionary Programming Based on Uniform Mutation.....	2338
<i>Zhongming Yang and Han Huang</i>	
Evolutionary Global Attitude Planning for Satellite Signature Suppression Shield.....	2343
<i>Kang Su and Jianjiang Zhou</i>	
Feature Selection Using Hybrid Taguchi Genetic Algorithm and Fuzzy Support Vector Machine.....	2348
<i>Wanmei Tang</i>	
Flexible Job Shop Scheduling Problem Solving Based on Genetic Algorithm with Chaotic Local Search.....	2356
<i>Libo Song and Xuejun Xu</i>	
Fuzzy Chance-constrained Textile Green Trade Barrier Early Warning System.....	2361
<i>Xinghua Wu and Huanbin Sha</i>	
GPS Ambiguity Resolution of Single Epoch Data Using genetic algorithms.....	2365
<i>Zhimin Liu, Weidong Xiong, Zhizhong Kang, Huizhan Zhang, and Meng Qu</i>	
Harmony Search Algorithm with Dynamic Subpopulations for Scheduling Identical Parallel Machines..	2369
<i>Jing Chen, Quan-Ke Pan, and Huan Li</i>	
Hybrid genetic algorithm for searching efficient paths in traffic assignment.....	2374
<i>Xinfeng Yang and Yinzhen Li</i>	
Improved hill-climbing methods in the design of Bijective S-boxes.....	2378
<i>Sheng Gao, Wenping Ma, Jia Feng, Na Guo, and Yajun Yan</i>	
Interactive Genetic Algorithms Based on Frequent-pattern Mining.....	2381
<i>Yi-nan Guo, Yong Lin , and Shu-guo Zhang</i>	
Memetic Algorithm Based on Improved Inver-over Operator for TSP.....	2386
<i>Yu-ting Wang, Jun-qing Li, Quan-ke Pan, Jian Sun , and Li-qun Ren</i>	
Monitoring and Forecasting the Dynamic Evolution of Beijing wetland from 1978 to 2005.....	2390
<i>Gu Li, Gong Zhi-wen , Wang Xin-jie, Gao Li, Wang Shuhan, and Zhang Xiaoli</i>	
New Genetic Algorithm for Hydropower Plants Unit Commitment Optimization.....	2395
<i>Muxun Zhou and Zhengchu Wang</i>	
New Method for Solving a Class of Dynamic Nonlinear Constrained Optimization Problems.....	2400
<i>Chun-an Liu</i>	
Novel path planning of robots based on bidirectional Ant Colony Algorithm.....	2403
<i>Yongfen Wu, Lei Shi , Qing, Li and Yao Chen</i>	
On the Improvement of Opposition-based Differential Evolution.....	2407
<i>Jun Tang and Xiaojuan Zhao</i>	

Optimal Control of Asynchronous Motor Mechanical Efficiency Based on Genetic Algorithms.....	2412
<i>Shouguang Li and Huikang Liu</i>	
Optimal design of pipe network of district cooling system based on genetic algorithm.....	2415
<i>Xaoping Feng and Weiding Long</i>	
Optimization of Double Wishbone Suspension and Steering Mechanism Based on Kane Method.....	2419
<i>Bian Xueliang, Liu, Qian, and Li Ke</i>	
Optimization of Fuzzy Classification System by Genetic Strategies.....	2424
<i>Xiang Zhang, Huaixiang Zhang, Ertao Li, and Xiang Zhang</i>	
Parameter Optimization of SVM Based on HQGA.....	2429
<i>Zan Mo, Haitao Xie, Feng Li, and Hongwei liu</i>	
Parameters Estimation of the Predicting Model for Germination Rates of Drying Maize.....	2434
<i>Xueqiang Liu, Jianchun Zhang, Xiaoguang Chen, and Wenfu Wu</i>	
Pavement Maintenance and Rehabilitation Decisions Derived by Genetic Programming.....	2439
<i>Jia-Ruey Chang and Sao-Jeng Chao</i>	
Population dynamics of a species with two or three types of males on a lattice.....	2444
<i>Tsuyoshi Hashimoto, Yukio Sakisaka, and Kei-ichi Tainaka</i>	
Research and Application of Solution of Vehicle Routing Problem Based on GIS.....	2451
<i>Jian Sun, Shikui Zhai, and Shuying Wang</i>	
Research of Knowledge Evolution System on Simulation of Human Scientific Knowledge.....	2455
<i>Li Xue, Cui DuWu, Chen Hao, and Tao YongQin</i>	
Research on Flexible Job-Shop Scheduling Problem under Uncertainty based on Genetic Algorithm.....	2462
<i>Jie Liu, Chaoyong Zhang, Liang Gao, and Xiaojuan Wang</i>	
Research on FSP with Multi-workstation Operation in Auto Assemble Workshop.....	2468
<i>Ze Tao</i>	
Self-Adaptive Improved Differential Evolution Algorithm.....	2472
<i>Liangdong Qu, Dengxu He, and Yongsheng Li</i>	
Solving Logistics Transportation Based on Improved Genetic Algorithm.....	2476
<i>Zhongli Ma and Fenglian Liu</i>	
Study for Seeking the shortest path on the irregular surface with Cellular Automata method.....	2481
<i>Yuanzhi Wang</i>	
Supplier Selection Model and Algorithm Based on Gray Bi-level Programming.....	2485
<i>Qu Bin</i>	
The Application of Genetic Algorithm to Closure Temperature Fields and Shape Optimization of Jinping High Arch Dam.....	2489
<i>Hui PENG, Wei YAO, and Ping HUANG</i>	
The sensitivity and optimization of the model parameters for the simulation of latent heat flux.....	2494
<i>Gaoli Su, Fangping Deng, Qinhuo Liu, and Xiaozhou Xin</i>	

Variable-weight Method of Multi-objective Fuzzy Optimization Design Based on Control Principle of Feedback.....	2500
<i>Weidong Wu and Xingwei An</i>	

Particle Swarm Optimization and Ant Colony Optimization

A Cultural Particle Swarm Optimization Algorithm.....	2505
<i>Ying Wu,Xiao-Zhi Gao,Xian-Lin Huang ,and Kai Zenger</i>	
A Hybrid of Binary Particle Swarm Optimization and Estimation Distribution Algorithm for Feature Selection.....	2510
<i>Bin Wei,Qinke Peng,Chenyao Li, and Xuejiao Kang</i>	
A Hybrid Optimization Method of Particle Swarm Optimization and Cultural Algorithm.....	2515
<i>Ying Wu,Xiao-Zhi Gao,Xian-Lin Huang, and Kai Zenger</i>	
A Hybrid PSO-BP Algorithm and Its Application.....	2520
<i>Jie Hu and Xiangjin Zeng</i>	
A method of Parameter Optimization for Particle Swarm Optimization Based on Stochastic Processes.....	2524
<i>Ming Xu,Longhua Ma,XinLei Jin,and Jixin Qian</i>	
A Modified Particle Swarm Optimization with Differential Evolution mutation.....	2530
<i>Xiaoxia Zheng</i>	
A Multi-swarm Cooperative Hybrid Particle Swarm Optimizer.....	2535
<i>Ying Li,Jiaxi Liang,and Jie Hu</i>	
A Novel Bit and Power Allocation Scheme for OFDM System over the Low Voltage Power Line.....	2540
<i>ZHANG Tao and ZHANG Rui</i>	
A Novel Hybrid Algorithm for the Dynamic Shortest Path Problem.....	2545
<i>Yafei Guo,Zheng Qin, and Yang Chang</i>	
A Novel Pheromone Update with Important Solution Components.....	2551
<i>Yingzhou Bi, Peng Zou , Zhi Zhong ,Yingzhou Bi, and Lixin Ding,</i>	
A novel quantum-inspired particle swarm algorithm and its application.....	2556
<i>Ru Nie,Xinzheng Xu,and Jianhua Yue</i>	
A Particle Swarm Optimization for Steiner Tree Problem.....	2561
<i>Xuan Ma and Qing Liu</i>	
A Study on Path Planning of Crowd Animation Based on PSO.....	2566
<i>Xiangwei Zheng ,Yan Li,and Hong Liu</i>	
An amelioration Particle Swarm Optimization algorithm.....	2571
<i>Huayong XIE,Mingqing XIAO,Bin HU, and Hang YU.</i>	
An Improved Particle Swarm Optimization Algorithm.....	2576
<i>Ping Luo,Ying Xu,Lihai Yao,and Yaolin Lou</i>	

An Improved Projection Pursuit Clustering Model and its Application Based on Quantum-behaved PSO.....	2581
<i>Qun Zhang, Xiujuan Lei, Xu Huang, and Aidong Zhang</i>	
An Integrated Algorithm Based on Artificial Bee Colony and Particle Swarm Optimization.....	2586
<i>Xiaohu Shi, Yanwen Li, Haijun Li, Renchu Guan, Liupu Wang, and Yanchun Liang</i>	
Analysis of Power Load Combination Forecasting Model Based on Improved Particle Swarm Optimization.....	2591
<i>Dongxiao Niu, Hanmei Wang, and Yanan Wei</i>	
Application of Virus Particle Swarm Optimization Algorithm in Economic Operation of Hydropower Station.....	2595
<i>Chang-ming Ji, Wei Xie, Shan Yu, and Xin-liang Zhu</i>	
Chaotic particle swarm optimization for synchronization of finite dimensional Hénon dynamical system.....	2600
<i>Xingli Huang, Peifa Jia, Bo Liu, and Ling Wang</i>	
Continuous Ant Colony Optimization Algorithm Based on Crossover and Mutation.....	2605
<i>Xiaofei Zhang, Huoming Zhang, and Mingzheng Gao</i>	
Cooperative Particle Swarm Optimization Algorithm Base on Fuzzy Migratory Operator.....	2609
<i>Guo-Rong Cai, Yun-Dong Wu, and Shui-Li Chen</i>	
Discrete Particle Swarm Optimization with Greedy Randomized Adaptive Search Procedure for Linear Order Problem.....	2614
<i>Enxiu Chen, Yi Sun, Zhenliang Pan, and Xiyu Liu</i>	
Fuzzy adaptive control for multi-machine power system based on ant colony algorithm.....	2619
<i>Zhong-qiang WU, Yuan YAO, and Chun-xia DOU</i>	
Glowworm swarm optimization algorithm based on multi-population.....	2624
<i>Dengxu He, and Huazheng Zhu</i>	
Hybrid algorithm for ant colony optimization based on chaos technique.....	2628
<i>Daohua Liu and Gongping Chen</i>	
Improved Discrete Particle Swarm Optimization Based on Edge Coding and Multilevel Reduction Strategy for Larger Scale TSP.....	2633
<i>Jing Jie, Huanhuan Ji, Meng Wang, and Ming Zhao</i>	
Improved Enhanced Self-Tentative PSO Algorithm for TSP.....	2638
<i>Jiang-wei Zhang and Wen-jian Si</i>	
Improved Hybrid Particle Swarm Optimization Algorithm.....	2642
<i>Huoming Zhang, Mingzheng Gao, and Xiaofei Zhang</i>	
Optimal Operation of Cascade Reservoirs Based on Generalized Ant Colony Optimization Method.....	2647
<i>Peng, Yong, Wang Guo-li, and He Bin</i>	
Optimal Operation of Hydropower Station Unit Based on Ant ColonyAlgorithm.....	2652
<i>Jingping Zhang, Qiang Huang, and Xuehua Zhao</i>	

Optimization of Preventive Maintenance Period Based on Hybrid Swarm Intelligence.....	2656
<i>Sa-Sa Ma, Tao Feng, Hong Zhang ,and Jia Xue</i>	
Particle Swarm Optimization Algorithm Based on Fixed Distribution.....	2660
<i>MAN Chun-tao, LIU Wen-qian , SHENG Gui-min, and Wang Tian-feng</i>	
Particle Swarm Optimization Based on the Initial Population of Clustering.....	2664
<i>Dakuo He, Hongrui Chang, Qing Chang, and Yang Liu</i>	
Particle Swarm Optimization-Based Algorithm for Lightning Location Estimation.....	2668
<i>Zhixiang Hu, Yiping Wen, Wenguang Zhao, and Hongping Zhu</i>	
Particle Swarm Optimized Particle Filter and Its Application in Visual Tracking.....	2673
<i>Zeng-Shun Zhao, Ji-Zhen Wang, Xue-Zhen Cheng, and Yu-Juan Qi</i>	
Personalized e-course composition approach using Digital Pheromones in improved particle swarm optimization.....	2677
<i>Sarath Chandar A.P, Dheeban S.G, Deepak V, and Susan Elias</i>	
PSO-based spatial scheduling algorithm for Hull Curved Block Construction.....	2682
<i>Zhiying Zhang, Kekai Yang, and Yinfang Dai</i>	
Self-Adaptive FCM and MMAS for Police Patrols.....	2687
<i>Shengdong Li, Xueqiang Lv, Chunhua Tie, and Wenjie Su</i>	
Self-adaptive Particle Swarm Optimization Algorithm for Global Optimization.....	2692
<i>Feng Lu , Yanfeng Ge, and LiQun Gao</i>	
Sequential Blind Image Extraction Based on Particle Swarm Optimization.....	2697
<i>Lei Chen, Liyi Zhang, Yanju Guo, Ting Liu, and Qiang Li</i>	
Simplified Particle Swarm Optimization Algorithm Based On Particles Classification.....	2701
<i>Guochu Chen</i>	
Study on Semi-finished Ship Structural Components Assembly Sequence Optimization.....	2706
<i>Chaoguang Jin, Yunlong Wang, Wenhao Zhang, and Yan Lin</i>	
Study on the Convergence of Converse Ant Colony Algorithm for Job Shop Scheduling Problem.....	2710
<i>Xiaoyu Song, Lihua Sun, and Yang Cao</i>	
Task Scheduling with Load Balancing using Multiple Ant Colonies Optimization in Grid Computing.....	2715
<i>Liang Bai, Yan-li Hu , Song-Yong Lao, and Wei-Ming Zhang</i>	

Multi-Objective Optimization (I)

A Dynamic Multiple Attribute Decision Making Method under Incomplete Information.....	2720
<i>Chang-yong Liang, En-qiao Zhang, Xiao-wen Qi, and Mei-ju Cai</i>	
A Multistage Scenario-based Inexact Fuzzy-stochastic Chance-constrained Programming for Water Resources Management under Uncertainty.....	2724
<i>Lei Jin, Guohe Huang, Yurui Fan, Li Wang, and Huaidong Zhou</i>	

A New Method for Dynamic Portfolio Choice Based on Copulas.....	2729
<i>Xu Qifa, Liu Shaojie, and Liu Jingdong</i>	
A ProA-Based Mathematical model Supporting Product Research and Development.....	2734
<i>Quanyou SHA, Jinfa SHi, and Xiansheng QIN</i>	
An Improved Ant Colony Algorithm for Urban Transit Network Optimization.....	2739
<i>Hong jiang, Qingsong Yu, and Yong Huang</i>	
An Multi-objective Optimization Strategy Based on Improved Taguchi Method and its Application of Bridge Structures.....	2744
<i>Hang Sun and Yang Liu</i>	
DSMOPSO: A Distance Sorting based Multiobjective Particle Swarm Optimization Algorithm.....	2749
<i>Li Zhongkai, Zhu Zhencai, and Zhang Huiqin</i>	
Emergency Repositories Layout Model and Calculation.....	2754
<i>Xiufeng Zuo, Yajie Wang, Qian Ran, and Rui Cui</i>	
Fuzzy Multi-objective Decision Making Method with Incomplete Weighting Factors Information in the Solar Investment Project Evaluation.....	2759
<i>Zeqiang Bian, Yizhuo Sha, and Wenhua Lv</i>	
Improved select space Multi-Objective Particle Swarm Optimization.....	2764
<i>Dakuo Be, Jiang Wang, Bing Chen , and Yang Liu</i>	
Intelligent Dynamic Modeling System for Multi-target Optimization Based on Power Grid Pattern Recognition.....	2769
<i>Liu Dun Nan, Chen Li, and Shao Li Zheng</i>	

Author Index

2010 Sixth International Conference on Natural Computation

(ICNC 2010)

**Yantai, China
10-12 August**

**Volume 6
Pages 2774-3338**



**IEEE Catalog Number: CFP10CNC-PRT
ISBN: 978-1-4244-5958-2**

2010 Sixth International Conference on Natural Computation

ICNC 2010 Table of Contents Volume - 6

Preface.....	xiii
Organizing Committee.....	xiv
Program Committee	xv
Reviewers.....	xviii

Multi-Objective Optimization (II)

Multi-objective Ant Colony Optimization Model for Emergency Evacuation.....	2774
<i>Xinlu Zong, Shengwu Xiong, Zhixiang Fang, and Wanru Lin</i>	
Multi-objective fuzzy optimization model with entropy coefficient for flood resources utilization.....	2779
<i>Gaihong Zhang and Wenping Cao</i>	
Multi-objective Optimization Design of Vehicle Suspension Based on Stackelberg.....	2783
<i>Song Chong Zhi and ZHAO Youqun</i>	
On the Differential Evolution Schemes in MOEA/D.....	2788
<i>Waibin Huang and Hui Li</i>	
Performance Analysis of Optimal Antenna Scheme in Transmit Diversity Systems.....	2793
<i>Yong Wang, Hui Li, and Xiyuan Wang</i>	
Performance comparison of three multi-objective optimization algorithms on calibration of hydrological model.....	2798
<i>Yuhui Wang, Xiaohui Lei, Yunzhong Jiang, and Hao wang</i>	
Research of Elevator Group Control Multi-objective Co-evolutionary Algorithm.....	2804
<i>Lei Feng, Chunlei Liu , and Xin Zhang</i>	
The Model of Medical Diagnosis Based on Machine Adaptive Learning.....	2808
<i>Xiaoyan Lu and Xiangshen Li</i>	
The Multi-Objective Optimization Algorithm to A Simple Model of Urban Transit Routing Problem.....	2812
<i>Jie Zhang, Huapu Lu, and Lang Fan</i>	

Artificial Life

- Research and Implementation of SoftMan's Communication Language.....2816
Qingchuan Zhang ,Guangping Zeng,Yunbo Chen,and Jinfu Liu
- Virtual Battlefield and Combat Simulation Based on Artificial Life Theory.....2820
You-Ming YU and Guo-Qing ZHAO

Artificial Immune Systems

- A New Clustering Algorithm Based on Artificial Immune Network and K-means Method.....2826
Jinjian Qing,Xuefang Liang,Rongfang Bie, and Xiaozhi Gao
- A Single Neuron PID Controller Based on Immune Tuning and It 's Application.....2831
Wei Wang and X.Z. Gao
- An Improved Artificial Immune Algorithm.....2837
YANG Fu-gang
- An Unsupervised Vegetation Classification Algorithm Based Immune.....2842
Chunlin Liang,Yuefeng Chen,Yindie Hong, and Lingxi Peng
- Application Of Immune Clonal Algorithm And Mutual Information In Nonlinear Blind Source Separation...2847
Xinjie Wu,Chao Xu,Rongrong Fu, and Chengdong Wu
- Chaos Immune Algorithm and Its Application to Function Optimization.....2852
Rui Zhang and Yan-bin Wu
- Cumulonimbus Forecasting Based on Rough Set and Artificial Immune Algorithm.....2856
Qin Wang and Wei Fan
- Dynamic Clonal Selection Algorithm Solving Constrained Multi-objective Problems in Dynamic Environments.....2861
Zhuhong Zhang,Shuqu Qian,and Xin Tu
- Immune Algorithm Based on Evaluation Mechanism.....2866
Dan Song
- Immune Feedback Control Computing in a Class of Intelligent Information Immunity System.....2871
Yajing ZHANG ,Xiangnan LI,and Diantong LIU
- Three-dimensional flight path planning by artificial immune algorithm.....2876
Lifeng Liu and Shuqing Zhang
- Using an Immune Optimization Algorithm to Solve the Distribution Centers Allocation Problem.....2881
Kongyu Yang and Binbin Gao

Intelligent Agents

- A Novel Model for the Internet Worm Propagation.....2885
Juan Wang , Chengyi xia,and Qifeng Liu
- An Anytime Algorithm for Optimal Coalition Structure Generation.....2889
Zhenrong Zhang,Wei Zhang, and Jinglei Liu

Automatic Construction and Visualization of Address Models.....	2894
<i>Boqiu Li, Xueying Zhang, and Yutian Chen</i>	
Consensus for Multi-Agent System With An Active Leader.....	2898
<i>Bo Liu, Yan Yu, and Jie Zhang</i>	
Cooperative Maintenance Decision System for Power Plant Based on Swarm Intelligence.....	2903
<i>Jiang Guo, Kai-kai Gu, Ya-jin Liu, Yi-xin Wang, and Xiang-ping Zhao</i>	
Formal Approach of Chance Discovery Theory for Agent's Interaction.....	2908
<i>Xuchuan Zhou, Yong Zeng, and Liping Cai</i>	
Is News the Main Reason why the Momentum and Reversal Take Place in the Stock Market?	2912
<i>Chengyao Wu, Xindan Li, and Haifei Liu</i>	
Learning opponent's indifference curve in multi-issue negotiation combining rule based reasoning with Bayesian classifier.....	2916
<i>Xiangrong Tong and Liang Guo</i>	
No-Regret Learning for Cost Constrained Resource Selection Game.....	2921
<i>Jin Li, Zhou Shi, Wei-Yi Liu, Kun Yue, and Rui-jie Chen</i>	
Research on Security Mechanism for Network Virtual Robot.....	2926
<i>WANG Hong-Bo, ZENG Guang-Ping ZENG , and TU Xu-Yan</i>	
Research on Stress and Strain Analysis of Cold Roll Forming Based on Characteristic Agent Model.....	2931
<i>Guo-chang Li</i>	
SaaS - The Mobile Agent based Service for Cloud Computing in Internet Environment.....	2935
<i>Gaoyun Chen, Jun Lu, Jian Huang, and Zexu Wu</i>	
Simulation Analysis Based on Multi-Agent for Partner Selection of Cooperative R&D in Virtual Enterprise.....	2940
<i>Yaofeng Zhang and Zhilin Geng</i>	
Structure and Generation Method Immunization Based for Network Antibody.....	2944
<i>Chang Liu and Yunfeng Peng</i>	
Study on Intelligent Tutoring System Based on Multi-Agents.....	2948
<i>Shengnan Ke and Xin Lu</i>	
The research on RTM of bathymetry estimation in Airborne Gravity Data Downward Continuation.....	2953
<i>Yi Cheng, Jin Luo, and Chunbo Xiu</i>	
Utilizing Grammatical Relations to Improve Recall and Precision in a Textual Database.....	2956
<i>Roland Hausser</i>	

Quantum Computing

Cyclotomic Cosets and Quantum BCH Codes.....	2961
<i>Fangying Xiao and Hanwu Chen</i>	
Duality Quantum Information Processing.....	2965
<i>Gui Lu Long and Chun-Yan Li</i>	
Entanglement of 10-qubit graph states.....	2970
<i>Guo-wei Chen and Xiao-yu Chen</i>	

Long Memory Macroeconomic Model of the Term Structure of Interest Rates.....	2975
<i>Zhi Yi and Feng Jiang</i>	
Monte Carlo integration with small random bits.....	2980
<i>Sheng Zhang, peixin Ye, and Jingfan Long</i>	
Mutually Authenticated Quantum Direct Communication Based on Entanglement Swapping.....	2984
<i>Zhihao Liu, Hanwu Chen, Wenjie Liu, and Juan Xu</i>	
Quantum Ant Colony Optimization with Application.....	2989
<i>Panchi Li, Kaoping Song, and Erlong Yang</i>	
Quantum Genetic Algorithm and Its Application to Designing Fuzzy Neural Controller.....	2994
<i>Panchi Li, Kaoping Song, and Erlong Yang</i>	

Molecular and DNA Computing

A Novel 3D Graphical Representation of RNA Secondary Structures Based on Chaos Game Representation.....	2999
<i>Qianjun Xiao, Jinyu Zhou, and Long Shi</i>	

Membrane Computing and Cultural Algorithms

A Particle Swarm Optimization Based on P systems.....	3003
<i>Fen Zhou, Gexiang Zhang, Haina Rong, Jixiang Cheng, Marian Gheorghe, Florentin Ipate, and Raluca Lefticaru</i>	
Adaptive Spiking Neural P Systems.....	3008
<i>Hong Peng and Jun Wang</i>	
Fuzzy Knowledge Representation Based on an Improving Spiking Neural P System.....	3012
<i>Jun Wang and Hong Peng</i>	
Reconstruction of Ionic Single-Channel Currents Based on Hidden Markov Model.....	3016
<i>Xiaoyan Qiao, Jinzhi Wu, and Youer Dong</i>	
Variation of Groundwater Quality in Seawater Intrusion Area Using Cluster and Multivariate Factor Analysis.....	3021
<i>Yi-Chu Huang, Chou-Ping Yang, Yu-Chun Lee, Ping-Kuei Tang, Wen-Ming Hsu, and Tien-Nien Wu</i>	

Chaos and Fractal

Chaotic Synchronization to Realize the Optical NOR Logic Gate Via Mutual Coupling Semiconductor Lasers.....	3026
<i>Yan Senlin</i>	
Comparison and Analysis for the Calculation Methods of Fractal Dimension of River System.....	3030
<i>Sun Gui-kai, Liu Fang-gui, Liu Ning, Wang Chun-an, Mo Chong-xun, and Du Qun-chao</i>	
Dynamic Analysis of Ecological Footprint and Ecological Carrying Capacity.....	3033
<i>Weizhuo Ji</i>	

Dynamics Analysis of Fractional Order Three-Dimensional Hopfield Neural Network.....	3037
<i>Ran Zhang,Dawei Qi, and Yanzhi Wang</i>	
Experimental Research and Verification for Couillet Chaos System.....	3040
<i>Xiaojin Zhu Zhiyan Chen,Zhiyuan Gao, and Xiaojun Wu</i>	
Fractal description and Clinical Controlled Study of Infants cerebral medical Computed Tomography.....	3045
<i>Li He-hong,Luo Liang-ping,Huang Li</i>	
Fractional Order Hperjerk System with Delay Feedback.....	3054
<i>WenLong Wang,Gao li,and ChunRui Zhang</i>	
Generalized Synchronization Control of Discrete-time Chaotic Systems.....	3059
<i>Yin Li,Rui Ying Wei,Qi Wu,wei Yan,and Ming Zhan</i>	
Impulsive Synchronization for a Chaotic System.....	3063
<i>Guangmin Liu and Wei Ding</i>	
Message Detection and Extraction of Chaotic Optical Communication Using Time-Frequency Analysis.....	3067
<i>Qingchun Zhao and Hongxi Yin</i>	
Study on Calculation Model of Curve Fractal Dimension.....	3072
<i>Bin Li, Yonglong Xu, Jinhui Zhang,and Long Cui</i>	
Symbol-Chaos Characteristics Based On System Noise.....	3080
<i>Yu Zhang,ChengLong Ren, YuGuo Wang,and RuWen Chen</i>	
The Chaotic Dynamics Movement Under the Invoke of Non-Gaussian Bounded Noise.....	3085
<i>Jihong SONG</i>	
The Computation of Two-dimensional Manifold of Hyperbolic Equilibria for Vector Fields.....	3089
<i>Meng Jia,Yangyu Fan,Huiming Li,Hengyi Sun, and Jing Zhang</i>	

Other Topics in Natural Computation

A 2-Population Classifier System.....	3093
<i>Yi-Chang Chen , Shin-Ren Shen,and Shan-lin Chang</i>	
A Branch and Bound Algorithm for Solving Nonconvex Minimization Problem Based on Reducing Duality Gap.....	3098
<i>Tingsong Du and Jingli Yang</i>	
A Branching-Cutting Cultural Algorithm for Weak-Constraints Optimization.....	3102
<i>Meiyi Li,Li Li, and Jian Hu</i>	
A Cellular Automaton Model of Unidirectional Pedestrian Walkway Based On Pedestrian Vision Field.....	3106
<i>Guirong Hou and Mingjun Liao</i>	
A GRASP based Algorithm for Multi-Constrained Circuit Partitioning.....	3110
<i>Qingqing Zhan ,Wenxing Zhu,and Xiuping He</i>	
A Moving Mesh Method based on Minimizing Energy Function.....	3115
<i>Yin Yang and Qin Zhou</i>	

A New Algorithm for Computing Complex Network Reliability Based on Cooperative Computing Thought.....	3120
<i>Jinzhong Jia, Yang Liu, and Guangwei Zang</i>	
A Novel Ant-based Clustering Algorithm with An Artificial Force Field.....	3124
<i>Zhang Lei and Cao Qixin</i>	
An Economic Early Warning approach Based on Bayesian Networks Mechanism.....	3129
<i>Xiu-Li Pang, Bo Yu, and Wei Jiang</i>	
An Improved Method for Bayesian Network Structure Learning.....	3133
<i>Weidong Cao and Xiangnong Fang</i>	
Anomalous Kinetics of a Three-species food chain with Spatial Heterogeneity.....	3138
<i>Wenting Wang and Zizhen Li</i>	
Biogeography based Optimization for Traveling Salesman Problem.....	3143
<i>Hongwei Mo and Lifang Xu</i>	
Context-Sensitive Computation in Trustworthy Computing.....	3148
<i>Qian Dong, Feng-Ming Liu, Xi-Yu Liu, and Yao-Pei Zhao</i>	
Coopetition Study Based on Parrondo's Game Model.....	3151
<i>Gang Xu, Nenggang Xie, Lingang Wang, Chao Wang, Yun Chen, and Ye Ye</i>	
Energetic considerations on the dynamics of Hodgkin-Huxley neurons.....	3156
<i>Abdelmalik Moujahid, Alicia d'Anjou, and Francisco Torrealdea</i>	
Formalizing Workflow Patterns with Extended Petri-net.....	3164
<i>Liang Zhang, Shuzhen Yao, and Jianxin Li</i>	
Game Study on the Populational Parrondo's Paradox Based on Complex Network.....	3169
<i>Lingang Wang, Nenggang Xie, Gang Xu, Chao Wang, Yun Chen, and Rui Meng</i>	
Inversion of Mud Invasion of Horizontal Layered Formation with Induction Logs in Mahuangshan Area.....	3176
<i>Wenhui Chang, Heping Pan, Yonggang Zhao, and Song Lu</i>	
Meshless Method with Ridge Basis Functions for Modified Helmholtz Equations.....	3181
<i>Xinqiang Qin, Zhigang Wang, Baoshan Miao, and Faning Dang</i>	
Multicore Computing of the Lattice Boltzmann Method: a Backward-facing Step Flow Example.....	3186
<i>Weibin Guo, Zhaoli Guo, and Baochang Shi</i>	
Network Heartbeat packets recognition Based on DTW and HC-FCM Algorithm.....	3190
<i>Tao He and Hao Zhong</i>	
New Combination Coefficients for AdaBoost Algorithms.....	3194
<i>Shuisheng Zhou, Manfred K. Warmuth, Yinli Dong, and Feng Ye</i>	
On a Geometric Ergodicity of Conditional Autoregressive Range Model under Random Environment.....	3199
<i>Yunyan Wang and Mingtian Tang</i>	
Radial Basis Function Collocation Method with Difference for Nonlinear Convection-dominated Diffusion Equations.....	3203
<i>Lijun Su, Xinqiang Qin, Baoshan Miao, and Quanjiu Wang</i>	
Realistic Rendering and Modeling of Plants.....	3208
<i>Dongsheng Yan and Lanling Zeng</i>	

Reducing Chattering Using Adaptive Exponential Reaching Law.....	3213
<i>Shibin Su,Heng Wang,Hua Zhang,Yanyang Liang,and Wei Xiong</i>	
Research and Improvement On ID3 Algorithm In Intrusion Detection System.....	3217
<i>Guangqun Zhai and Chunyan Liu</i>	
Some Strong Limit Theorems for Markov chains on a special Non-homogeneous Tree.....	3221
<i>Shaohua JIN ,Jian LIU,Nan LI,Yanping WAN,and Shuguang SUN</i>	
Study on pedestrian traffic at the channel bottleneck.....	3226
<i>Hong Xin Ning,Yu Xue, and Sanjun Kang</i>	
The Application of Perceptual Weighting on Millimeter Wave Conducted Speech Enhancement.....	3230
<i>Sheng Li,JianQi Wang,and XiJing Jing</i>	
The Equivalent Transformation and Algorithm from Coloured Petri Net to P/T Net.....	3234
<i>TANG Pei-he, HAN Jun-Feng, WEI Qiong,and Hao Lliu</i>	
Topology Optimization of a Continuum Structure with Local Volume Constraints.....	3238
<i>K. Cai and J. Shi</i>	
Wireless Channel Estimation Based on B-Spline Interpolation in OFDM System.....	3243
<i>Sun Yi,Yu Li,Zhang Qin, and Tang Liangrui</i>	

Applications of Natural Computation

Pattern Recognition and Diagnostics with Natural Computation (I)

A New Immune Particle Filter Algorithm for Tracking a Moving Target.....	3248
<i>Hua Han,Yongsheng Ding, and Kuangrong Hao</i>	
A Novel Approach for Discrimination of Human Gait Using Kernel Learning Algorithm.....	3253
<i>Jianning Wu</i>	
A Pedestrian Detection Method Based on SVM Classifier and Optimized Histograms of Oriented Gradients Feature.....	3257
<i>Guangyuan Zhang ,Fei Gao,Cong Liu, Wei Liu, and Huai Yuan</i>	
A Solution to The Can or Cannot Problem of Learning Based Compilation.....	3261
<i>Shun Long and Wei-Heng Zhu</i>	
Algorithm Research of Infrared Target Recognition.....	3266
<i>Liu Wenzhe,Wang Wensheng, and Ma Yongli</i>	
An Intelligent and Automatic Detective System for Pore Structure of a New Environment-friendly Board.....	3269
<i>Alun ,yan Ma,Yixing Liu,and Haipeng Yu</i>	
Application of Complexity and Approximate Entropy on Fault Diagnoses.....	3274
<i>Bingcheng Wang and Zhaohui Ren</i>	
Application of Pattern Recognition to the 1H NMR Spectra of Chinese Medicinal Herbs for Cold-hot Nature Distinguish.....	3278
<i>Hui Xu,Feng Li,Fuzhong Xue, and Li Shen</i>	
Applications of Fuzzy Judgment in Analysis of Materials.....	3282
<i>Qingmei Wang and Peng Shi</i>	

Automatic Panorama Mosaicing with High distorted fisheye images.....	3286
<i>Yuanyuan Xu,Xiaoming Li, and Yaping Tian</i>	
Based on Improved Parameters Predicting Protein Fold.....	3291
<i>Lei Liu and Xiuzhen Hu</i>	
Clustering Performance of Different Density Function Weighted FCM Algorithm.....	3296
<i>Xiaofang Liu and Chun Yang</i>	
Determination of Dichlorvos Contamination on Navel Orange Surface Based on Least Squares Support Vector Machines.....	3301
<i>Jing Li,Long Xue,Muhua Liu,Xiao Wang, and Chunsheng Luo</i>	
Discriminant face images taking both the feature correlation and Fisher criterion into account.....	3305
<i>Fengxi Song and Hongfeng Li</i>	
Face Recognition Based on Skin Color Information and Support Vector Machine.....	3309
<i>Shuangbao Shu,Jiarong Luo,Binxuan Sun, and Nan Yu</i>	
Fingerprint Segmentation Based On Ridge Search.....	3313
<i>Qian Liu,Gongping Yang, and Liming Zhang</i>	
Homography Based Quasi-Dense Match propagation for fisheye images.....	3318
<i>Xiaoming Li,Xixi Qin,Jing Li, and Yuanyuan Xu</i>	
Hybrid Hidden Markov Models for ECG Segmentation.....	3323
<i>Wu Shi and Igor Kheidorov</i>	
Hybrid of Ant Colony Algorithm and Simulated Annealing Algorithm and Its Application to The Slope Stability Analysis.....	3329
<i>Huang Dong and Qiao Jian-Ping</i>	
Identification and Analysis of Structural Time-Varying Parameters Using Seismic Response Records....	3334
<i>Maosheng Gong,Jing Sun,Toshihide Kashima,and Lili Xie</i>	

Author Index

2010 Sixth International Conference on Natural Computation

(ICNC 2010)

**Yantai, China
10-12 August**

**Volume 7
Pages 3339-3884**



**IEEE Catalog Number: CFP10CNC-PRT
ISBN: 978-1-4244-5958-2**

2010 Sixth International Conference on Natural Computation

ICNC 2010 Table of Contents Volume - 7

Preface.....	xiii
Organizing Committee.....	xiv
Program Committee	xv
Reviewers.....	xviii

Pattern Recognition and Diagnostics with Natural Computation (II)

Identification of Hydraulic Turbine Governor System Parameters Based on Bacterial Foraging Optimization Algorithm.....	3339
<i>Pangao Kou, Jianzhong Zhou, Chaoshun Li, Yaoyao He, and Hui He</i>	
Implement of Face Recognition System Based on Hidden Markov Model.....	3344
<i>Lihaipeng and LiJingJiao</i>	
Improved Dynamic Time Warping Algorithm the research and application of Query by Humming.....	3349
<i>Jin Li, Li-min Zheng, Lu Yang, Li-jun Tian, Ping Wu, and Hong Zhu</i>	
Improved Gauss-Newton-Marquardt Algorithms for Displacement Back Analysis of Casing External Loads in Salt Stratum.....	3354
<i>Xiangzhen YAN, Tongtao WANG, Xiujuan YANG, Yaorong FENG, and Jianjun Wang</i>	
Link Spam Detection Based on Genetic Programming.....	3359
<i>Xiaofei Niu, Shengen Li, Xuedong Niu, Ning Yuan, and Cuiling Zhu</i>	
Maximum Average correlation Height filter for detecting distortion targets in cluttered environment using computational intelligence.....	3364
<i>Jiyang Shang, Xue Zhan, and Wensheng Wang</i>	
Modeling of Combined Cycle Power Plant Based on a Genetic Algorithm Parameter Identification Method.....	3369
<i>Lin Gao, Junrong Xia, and Yiping Dai</i>	
Modified LNMF Based Color Face Recognition.....	3374
<i>Xiaoming Bai, and Chengzhang Wang</i>	

Non-destructive Measurement of Cucumber Leaf Chlorophyll Content by NIR Spectroscopy based on Simulated Annealing Algorithm.....	3379
<i>Shi Jiyong , Zou Xiaobo,Zhao Jiewen, Yin Xiaoping,Wang kailiang,and Chenzhengwei</i>	
Optimal Placement of Sensor in Gearbox Fault Diagnosis Based on VPSO.....	3383
<i>Pan Hongxia and Wei Xiuye</i>	
Prediction of Turbine Vibration Trend Based on Smooth Support Vector Regression.....	3388
<i>Chao Zhang and Liangyu Liu.</i>	
Recognition of pavement surface crack.....	3393
<i>Pengyu Zhang and Hong Li</i>	
Research on air-conditioning fault diagnosis Method based on SVM.....	3397
<i>Li Yang, Fang Qiansheng, Wang Xiaolong, Zhang Zhenya, and Xie Chenlei</i>	
Research on low contrast target detection based on multiwavelets.....	3401
<i>Fanghan Chen and Wensheng Wang</i>	
Research on the System of Ship Damage Case Recognition and Damage Control Knowledge Acquisitio}	3405
<i>Yue hou and Jin-yun Pu</i>	
Robust Character Based Tagging with Domain Lexical Features for Chinese Spoken Language Understanding.....	3410
<i>Changchun Bao,Yali Li,Ta Li,Jielin Pan and Yonghong Yan</i>	
Scaling Models of a Rainfall Intensity-Duration-Frequency Relationship.....	3415
<i>Qin Huang , Yuanfang Chen,Sui Xu,Yong Liu,and Xinkai Li</i>	
Semi-Random subspace sampling for classification.....	3420
<i>Ming Yang,Jie Bao,and Gen-lin Ji</i>	
Spike Classification with Multivariate t-Distribution Mixture Model via Improved Expectation-Maximization Algorithm.....	3425
<i>Haibing Yin, Yadong Liu, and Hu Dewen</i>	
Structural Time-Invariant Modal Parameters Identification from Seismic Response Data.....	3430
<i>Maosheng Gong,Jing Sun,Toshihide Kashima, and Lili Xie</i>	
Sub-manifold distance based object recognition in clutter.....	3435
<i>Hua Zhou, Chao Cai ,and Mingyue Ding.</i>	
The Application of Unascertained Measure Model in Coal-mine Gas Pre-evaluation.....	3439
<i>Yong Wang,Xu Liu,and Xiaohong Wang</i>	
The lake water bloom intelligent prediction method and water quality remote monitoring system.....	3443
<i>Wang xiaoyi,Dai jun,Liu zaiwen,Zhao xiaoping, Dong suoqi,Zhao zhiyao,and Zhang miao</i>	
Two-dimensional Neighborhood Preserving Discriminant Analysis For Face Recognition.....	3447
<i>Guanming Lu and Jiakuo Zuo</i>	
Two-dimensional Shape Matching by Shape Distributions.....	3452
<i>Hai Shan Wu and Xiang Liu</i>	

Vehicle License Plate Slant Correction Based on Mathematical Morphology and Radon Transformation.....	3457
<i>Li xia Gong,Hong ping Hu, and Yan ping Bai</i>	

Robotics and Intelligent Control with Natural Computation

A Control Method for Flexible Manipulator Based on SVM.....	3462
<i>Zhang Yibo and Ke Liuting</i>	
Adaptive Control of Neural Network Systems Containing Time-varying Delay.....	3465
<i>Zhongkui Sun and Xiaoli Yang</i>	
Adaptive Rigid Control of a Rigid Manipulator Handling a Flexible Payload.....	3469
<i>Lei Liu,Hua Chai, and Yuanchun Li</i>	
An optimal algorithm of a system with dead time based on chaos and clone.....	3474
<i>Qinruo wang, Jiuying Deng,Hui Zhang, and Baoyu Yue</i>	
Application of Fuzzy Logic and Support Vector Machine to the Control of Exploration Vehicle.....	3479
<i>Shunming Li ,Jianghui Xin,Mujin An,and Yuanyuan Zhang</i>	
Approximation Dynamic Programming for Multi-intersections Traffic Signal Intelligent Control.....	3485
<i>Li Chun-gui, Yan Xiang-lei , Xu Shu-an and Xie Ying</i>	
Control System of Robot Arm Based on sEMG.....	3489
<i>Jing Li,Li Zhao,Shuyan Ren,Tong Zheng,and Qingguo Meng</i>	
Duality for Vector Variational Control Problems under Generalized KT-invexity.....	3492
<i>Jun Jiang and Shuli Xu</i>	
Modeling and control of signaling split in urban traffic network based on hybrid systems.....	3497
<i>Jinkui Yang,Liguo Zhang , Yangzhou Chen,and Liang Shi</i>	
MOGA Application Feasibility Research on Ocean Petroleum Exploration Platform Seawater Environment Supervision.....	3503
<i>Qingsong Hu,Lihong Xu, and Xuan Liu</i>	
Predictive Function Control Based on the LS-SVM For Marine Steam Turbine System.....	3508
<i>Zhang Yu and Zhu Qidan</i>	
PSO Algorithm-Based Robust design of PID Controller for PMSM.....	3513
<i>Shaozhong Cao, Ji Tu, and Heping Liu</i>	
Realization of Path Planning for Mobile Robots Based upon S-Adaptive Genetic Algorithm.....	3518
<i>Lin-lin Xia, Gui-juan Miao, Jiang Jiang, and Zhuo Wang</i>	
Research of Tracking Robot Based on SURF Feature.....	3523
<i>Zhigang Bing, Yongxia Wang, Jinsheng Hou, Hailong Lu, and Hongda Chen</i>	
Research on RBF Tuning PID and Fuzzy Immune Control System of Superheat Temperature.....	3528
<i>Yang Xue and Zhenjie Yan</i>	
Sliding Mode Robust Guaranteed Cost Control for Uncertain Stochastic Nonlinear Jump Systems.....	3532
<i>Zhongyi Tang and Wei Ni</i>	

The Application of Hybrid Orthogonal Particle Swarm Optimization in Robotic Path Planning.....	3536
<i>Ma Qian-zhi and Lei Xiu-juan</i>	

Signal Processing and Multimedia with Natural Computation

3D Model Classification using Salient Features for Content Representation.....	3541
<i>Li Zongmin, Wang Daqian, Li Boyang, and Zhong Liangliang</i>	
A Color YUV Image Edge Detection Method Based on Histogram Equalization Transformation.....	3546
<i>Zhongshui Qu and Jianwei Wang</i>	
A Face Tracking Algorithm Based on LBP Histograms and Particle Filtering.....	3550
<i>Jianhua Ye, Zhengguang Liu, and Jun Zhang</i>	
A Registration Method for Vehicle License Plate Image.....	3554
<i>Nan Li, and XiaoBo Lu</i>	
Accurate Localization Using Biased Estimation.....	3558
<i>Zhang Xiao and Wan Qun</i>	
An Automatic Image Annotation Method Based on the Mutual K-Nearest Neighbor Graph.....	3562
<i>YuTang Guo and Bin Luo</i>	
Blind Image Watermark Analysis Using Higher Order Statistics.....	3567
<i>Wei Lu, Wei Sun and Hongtao Lu</i>	
Combining Tasseled Cap Transformation with Support Vector Machine to Classify Landsat TM Imagery Data.....	3570
<i>Qingsheng LIU and Gaohuan LIU</i>	
Emotional Talking Agent: System and Evaluation.....	3573
<i>Shen Zhang, Jia Jia, Yingjin Xu, and Lianhong Cai</i>	
Generalized Autoregressive Spectrum Estimation Algorithm based on Particles Sward Optimization.....	3578
<i>Song Zhijie, Wang qiaoying, and Wang Liang</i>	
Image Edge Detection Method Based on the Direction Feature of Fuzzy Entropy.....	3581
<i>Chun He, Jun Lu , and Junwei Han</i>	
Improved Methods for Detecting Main Components of Heart Sounds.....	3585
<i>Zhihai Tu, Guitao Cao, Qiao Li, Xianxia Zhang, and jun Shi</i>	
Intelligent Computation based Network Path Situation Assessment Scheme.....	3589
<i>Gongan Qiu, Guoan Zhang, Chen Xu, and Guoan Zhang</i>	
Mean Shift Based Orientation and Location Tracking of Targets.....	3593
<i>Wang Changjun and Zhang Li</i>	
Measurement the frequency of weak sinusoidal signal based on the genetic algorithm.....	3597
<i>Linze Wang and Ziming Li</i>	
Multi-frame Image Super-resolution Reconstruction Based on GPOF Registration and L1-norm.....	3601
<i>Lan Zhang, Hua Zhang, Simiao Zhang, and Yanbing Xue</i>	

Network Video Capture and Short Message Service Alarm System Design Based on Embedded Linux.....	3605
<i>Duanchun ZHOU, and Guangxing TAN</i>	
Re-weighting Relevance Feedback Image Retrieval Algorithm Based on Particle Swarm Optimization.....	3609
<i>Xiangli Xu,Xiangdong Liu,Zhezhou Yu, Chunyang Zhou,and Libiao Zhang</i>	
Research on the Channel Prediction Algorithm of Multiwavelet Combined with Support Vector Machines based on FPGA.....	3614
<i>Zheng Xiang,Xiaowei Liu,Ruichun Shangguan</i>	
Scene Segmentation Based on Seeded Region Growing for Foreground Detection.....	3619
<i>Hongwu Qin,Jasni Mohamad Zain,Xiuqin Ma, and Tao Hai</i>	
Seismic Signal Denoising Method Based on Curvelet Transform.....	3624
<i>Wu AiDi and Zhao Xiulng</i>	
Sensor Fault Diagnosis and Location for Small and Medium-scale Wireless Sensor Networks.....	3628
<i>Xi-Liang Zhang, Feng Zhang ,Jin Yuan,Jing-lan Weng,and Wei-hua Zhang</i>	
Sentiment Text Classification of Customers Reviews on the Web Based on SVM.....	3633
<i>Huosong Xia,Min Tao and Yi Wang</i>	
Simulation of the Single Channel Dual-Spectrum Low Light Level Instrument.....	3638
<i>Zhang Chuang, Bai Lianfa, and Zhang Yi</i>	
Small and Medium-scale WSN Information Transmission Link Quality Performance Evaluation and Experimental Research.....	3643
<i>Xi-Liang Zhang,Jin Yuan,Feng Zhang,and Pei-YONG Song</i>	
Statistical Properties of the Congestion Process of Particle Delivering on Scale-free Network.....	3648
<i>Yunfeng Chang,Yuan Zhao, and ShengQin Feng.</i>	
Subsequence Kernel-based Chinese Recommender System.....	3652
<i>Shuxia Pang,Rui Li,Zhanting Yuan, and Qiuyu Zhang.</i>	
Theoretical Analysis and Multi-agent Simulation of the Ecosystem in Tibet.....	3656
<i>YunFeng Chang,BoJin Zheng, and ShengQin Feng</i>	
Wavelet Threshold and Its Application in Removal the Static Effect of MagnetoTellric Data.....	3660
<i>Gong Yu-Rong, Tang Jing-Tian, and Cai Jian-Hua</i>	
Wedgelets-based Automatic Object Contour Detection.....	3664
<i>Kar Seng Loke</i>	

Other Applications of Natural Computation (I)

A Disambiguate Method to Covering Ambiguity Based on the Collocation Information.....	3669
<i>Su-qin FENG and Li-juan JIAO</i>	
A Fast ICA and Its Application in VEP Feature Extraction.....	3673
<i>Xiangkui Wan and Yiyi Chen</i>	

A Forest Fire Algorithm for the Percolation of ITZs in Concrete with Elliptical Aggregates.....	3677
<i>Xin-zhu Zhou, Jian-jun Zheng, and Lin Shao</i>	
A Framework of Ontological Semantic Knowledge Tree for Vertical Search Engine.....	3682
<i>Peng Lu, Lin Chen, Yibo Gao, and Yiping Yang</i>	
A Grey-Neural Networks Prediction Model of Death Toll in “5.12” Wenchuan Earthquake.....	3687
<i>Yanru WANG, Junwu Dai, and Xuegang FENG</i>	
A Heuristic Method for Sensor Scheduling in Infrared LEO Constellation.....	3692
<i>Yong Deng, Fuchun Sun, and Zhongzhao Zhang</i>	
A Method Based on Weighted-objective Similarity Degree for Multi-Objective Decision-Making.....	3697
<i>Chengyi Zhang and Leng Wang</i>	
A Modified Shuffled Frog Leaping Algorithm for the Traveling Salesman Problem.....	3701
<i>Meijie Wang and Weimin Di</i>	
A Multi-objective Particle Swarm Optimization for Openshop Scheduling Problems.....	3706
<i>Hsing Hung Lin</i>	
A New Access Control Method for Semantic Web Services Based on Security Control Center.....	3711
<i>Yang Xin, Jianjing Shen, and Zhiyang Si</i>	
A New Approach Based on Intuitionistic Fuzzy Set for Selection of Suppliers.....	3715
<i>Zixue Guo, Meiran Qi, and Xin Zhao</i>	
A New Evolutionary Algorithm Based on Alopex and Harmony Search Algorithm.....	3719
<i>Fei Li, Zhenzhen Mei and Shaojun Li</i>	
A Routing Computation Method In IP Networks.....	3724
<i>Baixian Zou</i>	
A New Method of Image Data Fusion Based on FNN.....	3729
<i>De-gan Zhang, Chao Li, Dong Wang, and Xiao-li Zhang</i>	
A new scale invariant feature detector and modified SURF descriptor	3734
<i>Hui Huang, Lizhong Lu, Bin Yan and Jian Chen</i>	
A Niching Particle Swarm Segmentation of Infrared Images.....	3739
<i>Yongfeng Xu</i>	
A Novel Grid Resource Matching Scheme.....	3743
<i>Yuan Lin, Siwei Luo, and Baohua Han</i>	
A plant growth simulation algorithm for permutation flow shop scheduling to minimize makespan.....	3748
<i>Tang haibo and Ye chunming</i>	
A Solving Algorithm for Target Assignment Optimization Model Based on ACO.....	3753
<i>Jun wang, Xiaoguang gao, Yong-wen zhu, and Hong Wang</i>	
A Stage-structure Predator-prey System with Multiple Preys and Additional Food.....	3758
<i>Li Changguo, Suo Wenli, Pei Yongzhen, and Li Shuping</i>	
A study of the hydrological prediction model based on wavelet de-noise method.....	3763
<i>Geng Qu, Fengyang Min, XiaoHu Guo, and Yonghui Zhu</i>	

A Support Vector Machine Based Scheduling Approach for A Material Handling System.....	3768
<i>Ci Chen,Binghai Zhou, and Lifeng Xi</i>	
A Three Dimensional Transport Model for Oil Spills in Coastal Waters Based on Particle Approach.....	3773
<i>Mingxian GUO,Ping SHI, and Xin LIU</i>	
A ZigBee Wireless Sensor Network for Fault Diagnosis of Pump.....	3778
<i>Yuan Hong-fang, Wang Hua-qing, Qi He, and Ke Xi-yong</i>	
An Approach to Optimize Composite Web Services Execution in a Distributed Servers Cluster.....	3783
<i>Liang Bao,Wei Jia, and Ping Chen</i>	
An Improved Genetic Algorithm and Its Application.....	3788
<i>Liu Gang ,Wang Xuemei, and Yang Lina</i>	
An Inverse Model for Coastal Acoustic Tomography and its Application to Chinese Coastal Sea.....	3792
<i>Zhu Xiao-Hua, Wu Qingsong, and Zhang Chuangzheng</i>	
An inverse optimization method for production planning.....	3796
<i>Hong-xia Yu and Li Jin</i>	
An Least-square -based Approach to Remove ECG Signal's Baseline Normalization.....	3799
<i>Wang Xin-cun and Cai ruosong</i>	
Analysis and Correction of The Nonuniformity of The Light Field in The High Resolution X-ray Digital Radiography.....	3803
<i>Wei Li and Qing Hou</i>	
Analysis and Prediction of Trajectories Using Bayesian Network.....	3808
<i>Chien-Liang Liu,Emery Jou, and Chia-Hoang Lee</i>	
Analysis for Agent Technique and Its Applications.....	3813
<i>Shiyong Ding, Tianqing Chang,and Gang Xie</i>	
Application of chaotic theory in Differential Evolution Algorithms.....	3816
<i>Guoyan Yu,Xiaozhen Wang, and Peng Li</i>	
Application of Dimensional Analysis for Carrying Capacity Assessment for Cage Fish Farm in Guangdong Coastal Waters, China.....	3821
<i>Honghui Huang,Xiaoping Jia,Genxi Guo,Hanhua Zhang, and Qin Lin</i>	
Application of Improved Genetic Algorithm for Solving Machine Scheduling.....	3825
<i>Xiaoling Huang,Xiuquan Chen,Hongxing Zheng, and Jinxue Xu</i>	
Application of Multi-agent Reinforcement Learning to Supply Chain Ordering Management.....	3830
<i>Gang Zhao and Ruoying Sun</i>	
Appling simultaed annealing algorithm in regularized magnetotelluric inversion.....	3835
<i>Xiao Chen ,Peng Yu,LuoLei Zhang, Yang Li,and JiaLin Wang</i>	
Applying DNA computing to diagnose-and-interfere hepatic fibrosis.....	3839
<i>BLANCA FARFAN,RICARDO STRAUSZ,DAVID KERSHENOBICH,GABRIELA MERCADO, and VICTOR HERNANDEZ-URBINA</i>	
ATRMIner : a system for automatic biomedical named entities recognition.....	3842
<i>Le-Jun Gong and Xiao Sun</i>	

Automatic Game AI Design by the Use of UCT for Dead-End.....	3846
<i>Zhiyuan Shi, Yamin Wang, Suoju He, Junping Wang, Jie Dong, Yuanwei liu, and Teng Jiang</i>	
Based on Vaccine Extraction and Immune Optimum Rough sets Attribute Reduction.....	3851
<i>Xuesong Xu and Sichun Wang</i>	
Calibrating Chlorine Wall Decay Coefficients of Water Distribution Systems Based on Hybrid PSO.....	3856
<i>Hongxiang Wang and Wenxian Guo</i>	
Monthly Precipitation Characteristic Analysis by Chaos Theory.....	3861
<i>Baohui Men</i>	
Clustering Strategy of Wireless Sensor Networks based on Improved Discrete Particle Swarm Optimization.....	3866
<i>Jiabing Hou, Xinggang Fan, Wanliang Wang, Jing Jie, Yi Wang</i>	
Comparison of HA, NA Amino Acid Sequences of Novel Influenza Virus A/H1N1 and Prediction of Related B Cell Epitopes.....	3871
<i>Changwen Liu, Shengtao Li, Zehong Zou, and Ailin Tao</i>	
Comparison of the Hydrological Models in the Upper Medway Catchment, UK.....	3874
<i>Dehua Zhu and Dingzhi Peng</i>	
Complexity analysis of the gait time series using fine-grained permutation entropy.....	3878
<i>Shou-qing Sun</i>	
Computation of Water Levels on the Open Boundary of Tide-surge Interaction Hydrodynamic Model Based on LS-SVM.....	3880
<i>He Shijun, Zhou Wenjun, Zhou Ruyan, and Huang Dongmei</i>	

Author Index

2010 Sixth International Conference on Natural Computation

(ICNC 2010)

**Yantai, China
10-12 August**

**Volume 8
Pages 3885-4444**



**IEEE Catalog Number: CFP10CNC-PRT
ISBN: 978-1-4244-5958-2**

2010 Sixth International Conference on Natural Computation

ICNC 2010 Table of Contents Volume - 8

Preface.....	xiii
Organizing Committee.....	xiv
Program Committee	xv
Reviewers.....	xviii

Other Applications of Natural Computation (II)

Computer Simulation of Intracavity Sum-frequency Generation in A Nd:YAG Laser.....	3885
<i>Aicong Geng, Ci Zhao, Baohe Li, and Yong Bo</i>	
Constrained Handling in Multi-objective Optimization Based on Quantum-behaved Particle Swarm Optimization.....	3887
<i>Jinyin Chen and Dongyong Yang</i>	
Controller Agent for Distributed C2 Organization.....	3892
<i>Jun Qiang,Dong-Sheng Yang,Zhong Liu,and Wei-ming Zhang</i>	
Creating Appropriate Challenge Level Game Opponent by the Use of Dynamic Difficulty Adjustment.....	3897
<i>Lingdao Sha, Souju He, Junping Wang, Jiajian Yang, Yuan Gao, Yidan Zhang, and Xinrui Yu</i>	
Damage identification by flexibility change for beam structures.....	3902
<i>Qiuwei Yang and Chaofeng Liang</i>	
Data Mining Based on Local Association Network: the simulation and Test on Inventory Data.....	3905
<i>Zhengming Qian ,Xun Lu,Mingli Liu, and Yanping Yu</i>	
Differential Evolution with Dual Population for Static Weapon-Target Assignment Problem.....	3910
<i>Changshou Deng, Bingyan Zhao, Anyuan Deng, and Rixin Hu</i>	
DNA Accelerating Evolutionary Algorithm and Its Application in the Parameter Optimization of Muskingum Routing Model.....	3914
<i>Xiaohua Yang and Jianqiang Li</i>	
Dynamic Difficulty Adjustment of Game AI by MCTS for the Game Pac-Man.....	3918
<i>Ya'nan Hao Suoju He,Junping Wang,Xiao Liu,Jiajian Yang,and Wan Huang</i>	

Dynamic optimization of steel tower by using adaptive genetic algorithm.....	3923
<i>Huiyong Guo,Hantang Zhu,and Zhengliang Li</i>	
Dynamic Principle and Simulation for Evolution of Biology.....	3928
<i>Yi Chen, Li He Chai, Chun Yan Li, and Yun Xia Zhang</i>	
Dynamiic Bayesian Approach to Forecasting.....	3933
<i>Adelina Tang</i>	
Ecological Hydraulics radius method for estimating instream ecological water requirement: theory.....	3938
<i>Baohui Men</i>	
Edge Detection of Cord Fabric Defects Image based on an Improved Morphological Erosion Detection Methods.....	3943
<i>Dongyun Wang and Huiqin Liu</i>	
Environmental/economic/reliability Power Dispatch Based on RS and IPSO Approach.....	3948
<i>Jinchao Li and Jinying Li</i>	
Evaluating Hazard Degree of Geological Disaster in the Laoshan District of the Qingdao City, Using GIS and RS Technology.....	3953
<i>Ma Anqing, Fujian Li, Junchao Jiao, and Lejun Liu</i>	
Evaluation influence of routing flexibility to makespan in FJSP with SA and GRASP algorithm.....	3961
<i>Tadeusz Witkowski,Pawel Antczak, and Arkadiusz Antczak</i>	
Evaluation Model of water resources reproducible ability in Yellow River Basin Based on Cloud Theory.....	3966
<i>QIU Lin,CHEN Xiaonan,CHEN Haitao, and DUAN Chunqing</i>	
Event-network clustering using similarity.....	3970
<i>Shan Jian-fang,Liu Zong-tian, and Fu Jian-feng</i>	
Evolutionary Algorithm for Protein Structure Prediction.....	3974
<i>Nashat Mansour,Fatima Kanj, and Hassan Khachfe</i>	
Evolutionary Optimization Model for Managing Project Changes with Minimum Cost.....	3978
<i>Min-Ren Yan</i>	
Financial Time Series Prediction Based on Echo State Network.....	3983
<i>Zhai Fangwen, Lin,Xiaowei , Yang Zehong, and Song Yixu</i>	
Fractal Dimension Estimation of Groundwater Depth Series of Well Irrigation Area in Sanjiang Plain Based on Continuous Wavelet Transform.....	3988
<i>Dong Liu,Tianxiao Li, and Qiang Fu</i>	
Fuzzy Assessment of surface temperature of RC members exposed to fire.....	3993
<i>Huailiang Wang</i>	
Fuzzy Comprehensive Evaluation of Land Reclamation Suitability in Mining Subsidence Based on GIS.....	3998
<i>Linxia Guo,Liping Zhou, Chunhua Yang,and Peter Fecko</i>	
GA Optimization On Multi-chamber Mufflers with Open-ended Intruding Perforated Inlets.....	4003
<i>Min-Chie Chiu, and Ying-Chun Chang.</i>	

Gas chromatography-mass spectrometry combined Fisher statistics for the determination of Cold-Heat nature of Traditional Chinese Medicine.....	4010
<i>Zhengli Zhou and Feng Li</i>	
optimization method for the layout of IMUs in deformation detection system of warship Based on Genetic Algorithm	4014
<i>Liu Aili and Ma Hongxu</i>	
Genetic algorithm-based intelligent inverse model for identification of channel network roughness.....	4018
<i>GANG LIU and YAN LEI</i>	
Genetic Clustering Route Algorithm in WSN.....	4023
<i>Zhou Ruyan, Chen Ming, Feng Guofu, Liu Huifang, and He Shijun</i>	
Grey Verhulst Prediction of Lightweight Soil Strength.....	4027
<i>Jianzhong Xia and Zhanyou Luo.</i>	
Grid Resource Scheduling Based on Improved Differential Evolution Algorithms.....	4030
<i>Shengjun Xue, Chan Li, Ming Yang, and Jing Nie</i>	
Genetic Algorithm Design of an Optimization Problem.....	4035
<i>Lin Liu and Yongwei Zhou</i>	
Hybrid Integrated Design and Realizable Strategy of Database of Mechanical Product Gene.....	4039
<i>Ruming Teng , Xuyang Cao, Shude Gao, and Xin Wang</i>	
Hybrid Particle Swarm Optimization Algorithm and Its Application.....	4045
<i>Zhengwei LI ,Zhengwei LI ,Guojun TAN, and Hao LI</i>	
Identification of Metamorphic rocks in the CCSD Main hole.....	4049
<i>Heping Pan , Miao Luo, and Yongguang Zhao</i>	
Identification of a Nonlinear Block-oriented Model.....	4052
<i>Xiaoping Xu, Fucai Qian, Ding Liu, and Feng Wang</i>	
Improved gene expression programming and its application to QSAR.....	4057
<i>Weizhong Fu, Yuntao Zhang, and Zhengjun Cheng</i>	
Improved robust stability for uncertain linear systems with interval time-varying delay.....	4062
<i>Xianming Kong, Xin Xue, and Peijun Ju</i>	
Integrated MMP SO and RBFNN for Optimal Control of Cracking Depth in Ethylene Cracking Furnace.....	4066
<i>Zhiqiang Geng, Tianfeng Shang, and Fang Li</i>	
Intellectualized Design of Truss Structure Based on Similarity Theorem.....	4071
<i>Xuyang Cao, Rumin Ten, Zhiyi Pan, Xin Wang, and Shude Gao</i>	
Interactive Flower Modeling Based on Phyllotactic Pattern.....	4075
<i>Lanling Zeng and Qun Pu</i>	
MG Scheduling Policy Based on Local Caching.....	4080
<i>Zhijun Xu and Guofu Yin</i>	
Multi-LEO Combined Orbit Determination Modeling Based on Hybrid Satellite Constellation and Nonlinear Optimal Estimation Algorithm.....	4083
<i>Deyong Zhao, Cuijuan Gao, Baojun Wu, and Jiongqi Wang</i>	

Negative tunneling magnetoresistance in spin filtering magnetic junctions with spin-orbit coupling.....	4088
<i>Yun Li and Yun Li</i>	
New conditions for synchronization of a class of chaotic neural networks.....	4093
<i>Zhe Zhao,Xueli Wu, and Xue Ding</i>	
Numerical Simulation of Cathodic Protection on Buried X80 steel.....	4097
<i>Xinhua Chen,Hongyuan Chen,Weibin Wang,Linli Liu,Dongbei Sun,and Lixin Zhang</i>	
Numerical simulation of reducing NO by recycled flue gas in chain boiler.....	4100
<i>Hu Manyin,Che kai,Li Yuan, and Wang Xiuhong</i>	
Numerical Simulations of Unsteady Natural Convection in an Enclosure with Two Hot Circular Parts at Bottom.....	4105
<i>Hairong Mi,Ye Gao,Pingan Liu,and Jianfeng Zou</i>	
On the application of the multi-agent-based robot system in book classification for library.....	4109
<i>Qin Cen,Yiru Ye,Lina Liu, and Xi Ye</i>	
On Time-Variable BP Neural Network With Application in Body-Bio-Model Tracking.....	4114
<i>Hui Cao ,Dongping Ma, Xuan Wang, Jinhui Shen, Yuzhang Han,and Jianguo Han</i>	
Optimal Allocation of Public Investment and Objectives of the Government.....	4118
<i>Lei Tian and Hai Huang</i>	
Optimal Multi-Variable Grey Forecast.....	4122
<i>Hongqi Hui and Lei Zhou</i>	
Optimization and Simulation Research on Ant Colony Algorithm.....	4127
<i>Fengtao Lin and Leping Liu</i>	
Optimization Design for Planar Four-bar Mechanism Based on Differential Evolution.....	4131
<i>Feng_Li Qiao and Hong_Bin Miao</i>	
Optimization for the Directional Filter Bank of the Nosubsampled Contourlet Transform.....	4135
<i>Chunman Yan,Baolong Guo, and Meng Yi</i>	
Optimization of Image Preprocessing for Diffusion Tensor Magnetic Resonance Imaging.....	4139
<i>Gang Liu,Li Yao,and Xiaojie Zhao</i>	
Optimization of Parameters of the Chemic Kinetic Model by Improved Genetic Algorithms.....	4143
<i>HAN Rui-feng and YANG Yu-li</i>	
Optimization of the aggregation in AdaBoost algorithm by particle swarm optimization and its application in classification problems.....	4147
<i>Shibo Gao and Yuntao Zhang</i>	
Optimization of the Shift Quality of Dual Clutch Transmission Using Genetic Algorithm.....	4152
<i>Hongwei Hu,Xianghong Wang, and Yimin Shao</i>	
Optimize Transition Stages of the Integrated SPC/EPC Process Using Improved Ant Colony Algorithm.....	4157
<i>Wang Xiuhong</i>	
Optimizing Player's Satisfaction through DDA of Game AI by UCT for the Game Dead-End.....	4161
<i>Yidan Zhang, Suoju He, Junping Wang, Yuan Gao, Jiajian Yang, Xinrui Yu, and Lindao sha</i>	

Output Feedback Robust H^∞ Controller Design for Networked Control Systems.....	4166
<i>Chen Wenying, Ma Yongguang, and Wang Bingshu</i>	
Parameters Identification of Coupled Seepage and Stress Field Based on Genetic Algorithms.....	4171
<i>Xiang-hui Deng and Rui Wang</i>	
Prediction of ozone concentration using Back Propagation neural network with a novel hybrid training algorithm.....	4176
<i>Wen-Yu Zhang, Xin Liu, Zhen-Hai Guo, and Jian-Zhou Wang</i>	
Product Innovation Model Based on User Attention Information.....	4180
<i>Sun Yan, Wang Wanliang, and Liu Xiaojian</i>	
PSO Algorithm-based Reliability Analysis of Bearing Capacity of Multi-pile Composite Foundation.....	4185
<i>Jia GUO and Yong Liu</i>	
Reliability Analysis of Vertical Bearing Capacity of Pile Using Random-Fuzzy Entropy Principle.....	4189
<i>Wen-yi ZHAO, Zhi-jun XU, and Jun-jie ZHENG</i>	
Reliability-based structural integrity assessment of liquefied natural gas tank with hydrogen blistering defects by MCS method.....	4194
<i>Jun Hu, Li-wei Yan, Fei Liu, Quan Duan, and Zao-xiao Zhang</i>	
Remote Sensing Image Based Information Extraction for Land Salinized Degradation and Its Evolution.....	4199
<i>Gengxing Zhao and Yan Meng</i>	
Research and application of cascade D-STATCOM for impact load compensation.....	4204
<i>Fan Ruixiang and Sun Min</i>	
Research of Active Vibration Control Optimal Disposition Based on MIGA and NSGA-II.....	4209
<i>Xiangzhong Meng, Jinping Ni, and Yanbo Zhu</i>	
Research on a genetic algorithm for solving module partition problem.....	4215
<i>Junyou Shi and Qingbin Tao</i>	
Research on A New Method of Subpixel Location Using GA.....	4219
<i>Yinghua Yang, Zhenhao Tang, and Xiaobo Chen.</i>	
Research on Design Methods of Coordinate Transformation and Navigation in Virtual Maintains System.....	4224
<i>Liu Xiao, Song Yinbin, and Li Haijun</i>	
Research on GPS Attitude Determination Based on DPSO.....	4229
<i>Na Xia, Changsheng Wang, Xingqi Shang, and Chunhua Yu</i>	
Research on Numerical Simulation of Two-phase Flow of Water and Gas Based on Fully Implicit Method.....	4234
<i>Baohui WANG, Xiangzhen YAN, and Xiujuan YANG</i>	
Research on Preprocessing of Palmprint Image Based on Adaptive Threshold and Euclidian Distance.....	4238
<i>Zhong Qu and Zheng-yong Wang</i>	

Research on the Tailoring Automatic Sub-bed System Using Algorithm	4243
<i>Xiaoyun Wang,Zhenzhen Huang ,Hongzhi Zhang ,Manliang Qiu , and Fenglin Zhang</i>	
Risk Analysis of Shield Tunnel Segment Failure Based on Fuzzy Fault Tree Method.....	4247
<i>Dong-an ZHAO,Jun-jie ZHENG,and Ye-wei ZHENG</i>	
Rough set theory in analyzing the knowledge on construction project customer satisfaction.....	4252
<i>Huang Ding-xuan and Guo Hong-ling</i>	
Scheduling the Blocking Flow Shop Problem Using a Harmony Search Algorithm.....	4258
<i>Jun-Hua Duan ,Quan-ke Pan,Junqing Li, KaiZhuo Gao,and Zhenqiang Bao</i>	
Scheduling the Lot-streaming Flow Shop Problem Using a Shuffled Frog-leaping Algorithm.....	4263
<i>Jun-Hua Duan,Quan-ke Pan, KaiZhou Gao, Junqing Li, and Zhengqiang Bao</i>	
Shift Quality Evaluation System Based on Neural Network for DCT Vehicles.....	4267
<i>Jianguo Zhang,Yulong Lei,Changfu Zong,Hongbo Liu, and Tinghui Hu</i>	
Simulating and Predicting Drainage Quality of Mine Tailings Impoundments.....	4272
<i>Kaixuan Tan,Jiang Liu,Huiqiong Qu,Chunguang Li, and Yongxiang Huang</i>	
Simulation of Harmonic Drive in Precision Robotic System.....	4278
<i>Gan-jun Li</i>	
Simulation of Covariance Analysis Describing Equation Technique (CADET) in Missile Hit Probability Calculation.....	4282
<i>Xinsheng Wang and Hui Xie</i>	
Simulation of Pedestrian Evacuation with Affected Visual Field and Absence of Evacuation Signs.....	4286
<i>Hao Yue,Hongzhi Guan,Chunfu Shao, and Yinhong Liu</i>	
Statistics-Based Semantic Role Labeling for Chinese Menu Corpus.....	4291
<i>Lei Han,DongHong Ji, and Han Ren</i>	
Study on variation in Wet and Low Water of Precipitation Prediction based on Markov with Weights Theory.....	4296
<i>Mingke Cai</i>	
Study on Virtual Plant Growth Based on Information Fusion and Reconstruction.....	4301
<i>Wei-dong TANG, Chen GUO, and Ping-ping LI</i>	
Support vector machine and neural network united system for NC machine tool thermal error modeling.....	4305
<i>Weiqing Lin ,Weiqing Lin ,and Jianzhong Fu</i>	
Synchronized-TSP as a model for multilocus genetic consensus mapping.....	4310
<i>David Mester,Yefim Ronin,Dina Minkov,Rostislav BelotzerKovsky,Zeev Frenkel, and Abraham Korol</i>	
System Dynamics Model of Public Emergencies Evolution.....	4318
<i>Tao Wang and Yanzhang Wang</i>	
Task Allocation in Multi-Agent Systems with Swarm Intelligence of Social Insects.....	4322
<i>Jipeng Du,Ling Zhou,Peng Qu,Zhen shi,and Yang Lin</i>	
Temperature Prediction based on PSO and SVM for Roller Hearth Heat Treatment Furnace.....	4327
<i>Jing Li and Jing Wang</i>	

The Application of Empirical Mode Decomposition and Gene Expression Programming to Short-term Load Forecasting.....	4331
<i>Xinqiao Fan and Yongli Zhu</i>	
The Application of Fuzzy Evidence Theory in Optimum Route Planning.....	4335
<i>Wen Cao,Hui Shi, Shu-long Zhu,and Run-sheng Li</i>	
The modeling method of printing color test and control for full color management.....	4338
<i>Liming Guan,Gengsheng Hu, and Biao Zhang</i>	
The Optimization of Routing in Fourth-party Logistics with Soft Time Windows Using Harmony Search.....	4344
<i>Min Huang,Guihua Bo, Xingwei Wang,and W.H. Ip,</i>	
The Optimized Design of Apparel Streamline Based on Genetic Algorithm.....	4349
<i>Bei Wang and Suying Chen</i>	
The Out-of-Band Virtualization Model of Network Storage Based on Trusted Computing.....	4354
<i>Zhang Qiang, Cui Dong, WuYunlong ,and Dang Zhuang</i>	
The Research on Real Estate Market Comparison Decision-making Support System Valuation Model Library.....	4358
<i>Xiaosheng Liu, Tingli Wang, and Hekai Li</i>	
The Study and Realization of Mobile Meta Search Engine.....	4362
<i>Qiang Li and Jing Nie</i>	
The Super-critical Dissipative Quasi-geostrophic Equations with Dispersive Forcing.....	4366
<i>Linrui Li, and Shu Wang</i>	
Three-dimensional research on detecting ice-snow resource based on HRS data.....	4371
<i>Zhigang Hong,Nan Cong, and Li Zhang</i>	
Three-Step Traffic Cellular Automata Procedure.....	4376
<i>Shih-Ching Lo</i>	
Tree Growth Competition Algorithm and Its Application in Automated Design of Line Antenna.....	4381
<i>Gaiwen Guo and Bing Zhao</i>	
Two modeling methods for near infrared spectroscopy nondestructive quantitative analysis of the protein contents in <i>Coredyceps militaris mycelia powder</i>	4385
<i>Wei-liang Guo, Jia Song, Jia-hui Lu, Li-rong Teng, Yan Wang, and Wei Du</i>	
Two-Stage Identification for Nonlinear Causal Relationships.....	4390
<i>Feng Jiang,Guangyin Gao,and Huisheng Zhu</i>	
Use of Differential Evolution in Low NO _x Combustion Optimization of a Coal-Fired Boiler.....	4395
<i>Ligang Zheng,Yugui Zhang,Shuijun Yu, Minggao Yu,and Junbang Chen</i>	
User Interest Modeling Based on Large Item-set Group.....	4400
<i>Kaiji Liao,Donghai Ye,and Huihui Xiong</i>	
Using genetic algorithms for time series prediction.....	4405
<i>Cheng-Xiang Yang, and Yi-Fei Zhu</i>	

Using LS-SVM Inverse Model on Actuator Fault Diagnosis and Accommodation for Nonlinear Systems.....	4410
<i>Ma Yongwei, Gou Xingke, Du Xianjun ,and Cao Jie</i>	
The Optimization of Water Utilization Based on artificial fish-swarm algorithm.....	4415
<i>YuFang Gao and YaoDeng Chen</i>	
Impact of Economic Structure Change on Energy Intensity in Yunnan Province.....	4420
<i>Guan Bo , Qin Kai-Da, Xue Fei-Fei ,Wei Si,and Xue-en Guan</i>	
A Real-time Surveillance System of Electric Multiple Units(EMUs) In Taipei MRT.....	4425
<i>Chih-chian Chang, Lee-kuo Lin, and Chun-hsuen Tsai</i>	

Invited Session

Architectures and learning algorithms for complex networks with applications

A constraint programming approach for production scheduling of multi-period virtual cellular manufacturing systems.....	4430
<i>Kai-Ling Mak, Jun Ma, and Wei Su</i>	
Production scheduling for virtual cellular manufacturing systems with workforce constraints using a hybrid algorithm.....	4435
<i>Kai-Ling Mak , Jun Ma, and Wei Su</i>	
Quantity discount contract for supply chain coordination with false failure returns.....	4440
<i>Ximin Huang, Sin-Man Choi, and Wai-ki Ching</i>	

Author Index